I-405 Sepulveda Pass Widening Project

Meeting Minutes

Subject: GSA Management Meeting – Project History and Path Forward

Date: Friday, March 9, 2012

Time: 10:30 am

Location: GSA, 300 North Los Angeles, Suite 400, Los Angeles, CA 90012, 4th Floor, Southwest Corner

Attendees: See Introductions Section

- **Introductions**
  - **GSA: Rebecca Martinez, Dana MacFarlane, Jim Kane, Brian Stilley**
  - **FHWA: Eric Worrell, Jacob Waclaw, Richard Backlund**
  - **Metro/CalTrans: Mike Barbour, Terry Martinez, Kurt Turley, Mike Miles, Dennis Mori**
  - **City of LA: Greg Spotts**

- **Project Overview**
  - **Several Federal properties involved:** (b) (7)(F) [redacted]
  - **Several Big Groups: UCLA, Getty, Skirball, Concerned Westside Community**
  - **Project funded by Federal, State bonds, Local Funding**

Metro

Caltrans

I-405 Sepulveda Pass Widening Project

- **50% funded with 40% of work done**

- **Metro as Project Management, CalTrans as ROW, funding, and review/oversight**

- **History: CalTrans to approach all groups to start negotiation. MOU negotiations with GSA started as early as 2007. Metro started in 2009 to take over negotiations. The biggest issue was that GSA and FHWA could not come to an agreement on the money issue. License to Enter in June 2011, MOU in August 2011, TCE in October 2011.**
  - ***3 big issues on project: Sunset bridge, Mulholland Bridge, Wilshire bridges.***
  - ***Costs: LADWP PS relocation in this area is already at $6 Million***
  - ***Traffic Impacts: Demo of Wilshire WB ramps for 90 days. Trying to start 90 day closures for Wilshire ramps during the summer.***

- ## Project through the GSA property
  - ### I-405 Project Concerns
    - **Metro understood that once TCE was issued that work would be able to move forward. There have been multiple roadblocks, ie GSA concerns, [redacted] (b)(7) concerns, Contractor submittals, lack of engineering support, etc.**
    - **We are at critical portion of the job. Projects 3, 4, & 5 are an immediate concern. Need these projects done to build Bridges 7, 8, 10, & 11. Bridges 10 & 11 are the closure needed to be done during the summer, known as the Wilshire WB Ramp Closure. If they are not done during the summer this could cause additional community impacts and project impacts.**
    - **FHWA could never get an agreement with the GSA. To assist in expediting commencement of work on the project, FHWA agreed to participate in a $1.65 million dollar payment to GSA and committed additional funds that would provide reimbursement to GSA of over $4 million in costs associated with impacts from the I-405 project.**

- **GSA had a project coming up in 2013. Funding did not come through so project will not be done in 2013. GSA is willing to work with I-405 project but [redacted] concerns need to be addressed in protecting facilities such as the [redacted] linked to Project 5.**

- **For Project 5, GSA has been trying to contract with [redacted] Contractor. Cost has come in too high and GSA has negotiated price down that would be deemed acceptable. GSA has also negotiated to expedite telecom work from 90 days to 6 weeks. GSA states that they should have Contractor on board next week on Friday. GSA needs to verify bonds before NTP, 2 weeks estimate. GSA stated that a kick-off meeting could possibly take place prior to clearing bonds. GSA states that telecom work in building cannot be separated from telecom conduit in parking lot. MTA is still wanting the protection in place revisited. GSA is asking for submittal. MTA stated that submittal has gone in but GSA states that was not sufficient. GSA is stating that [redacted] wants a fool-proof plan that guarantees complete safety of telecom but MTA states that there should be a reasonable amount of care. GSA has a CM firm on board to get engineers on board quickly but haven't because of costs.**

- **There is an [redacted] that MTA/Kiewit have offered to protect in place in order to do other work. [redacted] does not want to allow this do to their concerns that if anything happens to [redacted] that people could go to jail.**

- **GSA has given verbal approval to move forward with temp solution for Project 3 and alternative solution of Project 4. Full approval will be given once County approves design and [redacted] is installed prior to Project 4 going active. MTA has agreed to pay for [redacted] either through RWA or through direct cost. MTA/FHWA has offered to address expedited costs and facilitating work with [redacted] and subsequent telecom cable contractor.**

- **MOU**
  - **MTA stated that GSA has not provided the services as stated in the MOU (i.e. professional design services to review plans, security, etc.) and thus the reason for not allowing structure work to continue.**

- **Utility and Structure Work**
  - Metro stated that they would like to proceed with the structure work but GSA has not allowed this. It further stated that if an electrical engineer was on board to review the protection in place that the contractor has provided in the past, the work would have not been delayed. GSA stated that they were willing to revisit the protection in place option.

Calendar Entry

Meeting Change **ShudaK has rescheduled this meeting**

This reschedule notice has been applied to the meeting.

Subject	GSA/405 project meeting	**Chair**	ShudaK@metro.net
When	Date Tuesday 02/15/2011 Time 02:30 PM - 03:30 PM (1 hour)	**Invitees**	
		Required (to)	MURRAYS@metro.net, steven.z.zaw@dot.ca.gov, bruce.hesse@kiewit.com.
		Optional (cc)	
Where	Wilshire Yard Conference Room, 1200 S. Sepulveda Blvd		

When: Tuesday, February 15, 2011 2:30 PM-3:30 PM (GMT-08:00) Pacific Time (US & Canada).
Where: Wilshire Yard Conference Room, 1200 S. Sepulveda Blvd

~~*~*~*~*~*~*~*~*

- 02-15-11 Meeting Agenda.DOC

February 14, 2011 Stephen L. Murray

Re: **C0882 I-405 Sepulveda Pass Widening Project**

LACMTA / GSA /[redacted] – "Kick Off Meeting – Agenda"

Power / Signal (Conduit Infrastructure) /[redacted] – Scope of Work "Agenda"

The following list of issues will require a meeting between the Los Angeles County Metropolitan Transportation Authority (LACMTA) and GSA to resolve.

- **Telephone, IT, and Security Cabling (Conduit Infrastructure):**
  New Proposed Routing for new infrastructure by KPC;
  Action: KPC to provide proposed routing to GSA for review and approval

- **Parking Lot Light Standards:**
  KPC (HNTB/FPL) to provide proposed Parking Lot Lighting Plan
  Action: Upon Approval by GSA, MTA to provide PSA once detailed Scope is submitted.

- [redacted] request for a [redacted] installation on (10) Lamp Poles;
  Action: The LACMTA to confirm the Scope of Work for the [redacted]

- **The Vault System (Duct Bank – Configuration)**
  Action: The LACMTA to confirm the Scope of Work for the proposed [redacted] Lighting Systems.
  1. Manholes (w/ secure hatches)
  2. Number of Conduits – Similar to the Original Vault System
  3. Location of Vault to be installed [redacted]
     a) One (4") Conduit will extend into the [redacted] and terminate at the Telephone Punch down Blocks.
     b) One (4") Conduit shall extend into the [redacted] to facilitate the termination of the bulk fiber cables.

- **Lamp Poles (Light Standards)**
  Action: The LACMTA to confirm the Scope of Work for the proposed [redacted] Lighting Systems.

- [redacted] **Lamp Pole Requirements:**
  Action: The LACMTA to confirm the Scope of Work for the proposed Security and Lighting Systems.

  a) Power: 20 Amp, 110V Power to specified J-Box @ top of each pole.

  b) Mounting Hardware (to be supplied by the [redacted]?

  c) Conduit runs, between the Lamp Poles, and the [redacted]

  d) Conduit Size: At each pole, a 1 ½" conduit will need to be placed from the bottom access panel to the top enclosure box. Each Lamp Pole will need to be interconnected.

- [redacted]
  Assumptions for All [redacted]:
  a) Locations – to be confirmed

Kiewit
Infrastructure Group

I-405 SEPULVEDA PASS WIDENING PROJECT

DATE: 2/8/11 TIME: 2:30pm

MEETING: KIEWIT / MTA / GSA COORDINATION MTG

TOPICS:
1. Safety:
2. Quality:
3. Compliance:

LOCATION: Wilshire Yard FACILITATOR(S): STEPHEN MURRAY (MTA)
O: 310 846 3531
C: 805 200 7050
e-MAIL: MURRAYS@METRO.NET

(Briefly describe training topic and attach agenda to attendance sheet.)

Print Name:	Signature
JAMES HERMICK	(b) (6) [redacted]
BRUCE HERNE	
Mike Potts (Kiewit Utility Mgr)	
dana macfarlane - gsa	
REBECCA MARTINEZ	
BRIAN STILLEY	
RIC SWANSON	
Jeff Stanley	
ANDREW AYDELOTT	
STEPHEN L MURRAY	
Kasey Shuda	
STEVEN ZAW	

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DATE

MEETING

PAGE:

Print Name: AMIR HASSOUN

[redacted]

a_hassoun@dot.ca.gov

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(RETURN COMPLETED FORM TO NORA KENNEDY - ROOM 2.115 OR MAILBOX)

IV. Project #6 – GSA Parking Lot [redacted] Updates

A. Design

1. FDC 2386

   i. Kiewit will clarify on how conduits feed to the [redacted]

   ii. Only 1 conduit will be required

   iii. Rebecca proposed [redacted] to have a discussion with MEC and MEC's Subcontractor to clarify verbal changes that occurred in the past month between [redacted] Crawford, and HNTB. Rebecca to schedule meeting on 4/23/14 @ 11:00 am.

2. FDC – Relocate Tree

   i. Couple trees on North side of driveway.

   ii. North side of federal loading block drive way, [redacted] were in direct conflict with landscape plans. Therefore, landscape plans have shifted.

3. FDC – Relocated Pole

   i. Pole # 6, #7, ~~#8~~ – GSA to talk to structural engineer -> Still waiting response.

   ii. [redacted]

   iii. **(ACTION)** Rebecca will push to get load demand review back before 4/30/14. MEC needs review by then to turn in rebar calculations and shop drawings.

   iv. MEC submitted plan for relocation of pole #~~8~~ 9 to GSA. [redacted]
   See email from Shannon.

   v. 36" junction box will be changed to 24" – Waterproof bottomless box to be placed on existing concrete. Discussions with MEC and RIC put gravel underneath bottomless boxes, pour concrete slab and have a sump and drain so there is no connection to the existing. Comment has been made on plan changes for FDC.

Geotechnical
Environmental
Hydrogeology
Material Testing
Construction Inspection

June 12, 2012

Project No. 11-3306

Kiewit Infrastructure West Co.
2nd Floor
6060 Center Drive
Los Angeles, CA 90045

Attention: Mr. Daniel Lewis

Subject: Baseline Vibration Monitoring, GSA Lot, South East Corner of Wilshire and S. Sepulveda Blvd, I-405 Sepulveda Pass Widening, Contract No. C0882

Mr. Lewis,

In accordance with your request, TGR Geotechnical, Inc. (TGR) is pleased to provide this report presenting the results of our baseline vibration monitoring study at the subject site.

The purpose of our study was to obtain baseline vibration levels at the subject site with no construction activity taking place. The monitoring was performed on Sunday June 10, 2012.

VIBRATION INSTRUMENTATION

In order to collect the vibration data, four seismographs and analysis software (Blastware 10.3 by Instantel) were utilized. The seismographs utilized were the BlastMate III manufactured by Instantel, Inc. Each seismograph consists of a 3-axis velocity transducer, an air over-pressure transducer, and a data acquisition and storage device. The Blastware 10.3 analysis software provides features for graphical output of the wave forms in each of the three axes.

The serial number and calibration date of the seismographs are presented below:

Instantel Seismograph SN	Calibration Date
BA7606	2/17/2012
BA7195	2/17/2012
BA7014	2/17/2012
BA8177	5/16/2012

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DBE & 8(a) firm
3037 S. HARBOR BLVD
SANTA ANA, CA 92704
P 714.641.7189 F 714.641.7190
www.tgrgeotech.com

Each transducer measured velocities on three mutually perpendicular axes corresponding to a longitudinal, transverse, and vertical component. The data acquisition equipment simultaneously recorded each geophone sensor, in digital format, time-domain data for each of the three mutually perpendicular axes.

Figure 1, Vibration Monitoring Location Map presents the locations of the seismographs for this study.

VIBRATION DATA

Baseline vibration data was collected on Sunday June 10, 2012 between 8:45 am and 12:45 pm. There was no ongoing construction activity during the collection of the baseline vibration data. The locations of the seismographs are presented on Figures 1.

The vibration data was collected in terms of velocity in inch per second in vertical, longitudinal and transverse directions. The vertical velocity component has the most impact on structures.

Presented below are the baseline peak particle velocities at each of the seismograph locations. Details vibration monitoring data is presented in Appendix B.

Instantel Seismograph SN	PPV-Tran (in/sec)	PPV-Vert (in/sec)	PPV-Long (in/sec)
BA7606	0.0250	0.0300	0.0250
BA7195	0.0100	0.0150	0.0250
BA7014	0.0150	0.0100	0.0100
BA8177	0.0150	0.0100	0.0200

LIMITATIONS

Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by reputable geotechnical engineer practicing in this or similar situations. The interpretation of the field data is based on good judgment and experience. However, no matter how qualified the geotechnical engineer or detailed the investigation, conditions cannot always be predicted beyond the points of actual sampling. No other warranty, expressed or implied, is made as to the professional advice included in this report.

If you have any questions regarding this report, please do not hesitate to contact this office. We appreciate this opportunity to be of service.

Respectfully submitted,

TGR GEOTECHNICAL, INC.

(b) (6)

[redacted]

Sanjay Govil, Ph.D., PE, GE 2382
Principal Geotechnical Engineer

Enclosures: Figure 1 – Vibration Monitoring Locations Map
Appendix A - References
Appendix B – Vibration Data

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TGR

(b) (7)(F)

[redacted]

Approximate Location of Seismographs

TGR

VIBRATION MONITORING LOCATION MAP
GSA WILSHIRE LOT

Project No.: 11-3306

FIGURE 1

APPENDIX A
REFERENCES

California Department of Transportation (Caltrans), Division of Environmental Analysis, Office of Noise and Hazardous Waste Management, Sacramento, CA, Transportation Related Earthborne Vibrations (Caltrans Experiences), Technical Advisory, Vibration TAV-04-01-R0201, dated January 23, 2004.

California Department of Transportation (Caltrans), Division of Environmental Analysis, Office of Noise and Hazardous Waste Management, Sacramento, CA, Transportation- and Constuction-Induced Vibration Guidance Manual, California Department of Transportation, Environmental Program, Environmental Engineering, Noise, Vibration, and Hazardous Waste Management Office, dated June 2004.

Dibblee Jr., Thomas W., 1991, Geologic Map of the Beverly Hills and Van Nuys (South Half) Quadrangles, Los Angeles County, California, #DF-31.

Hal Amick and Michael Gendreau (Colin Gordon & Associates), Construction Vibrations and Their Impact on Vibration-Sensitive Facilities, ASCE Construction Congress 6, Orlando, Florida, February 22, 2000.

United States Department of the Interior, Office of Surface Mining Reclamation and Enforcement, Structure Response and Damage Produced by Ground Vibration from Surface Mine Blasting, Report of Investigations 8507.

United States Department of Transportation Federal Highway Administration and The State of California Department of Transportation, 2007, Interstate 405 Sepulveda Pass Widening Project, Draft Environmental Impact Report/Environmental Impact Statement and Section 4(f) Evaluation, Widening and High Occupancy Vehicle (HOV) Improvements from Interstate 10 to US Highway 101, in the City of Los Angeles, Los Angeles County, dated May 2007.

APPENDIX B
VIBRATION DATA

TGR GEOTECHNICAL
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Instantel

GSA WILSHIRE LOT - BASELINE

TGR

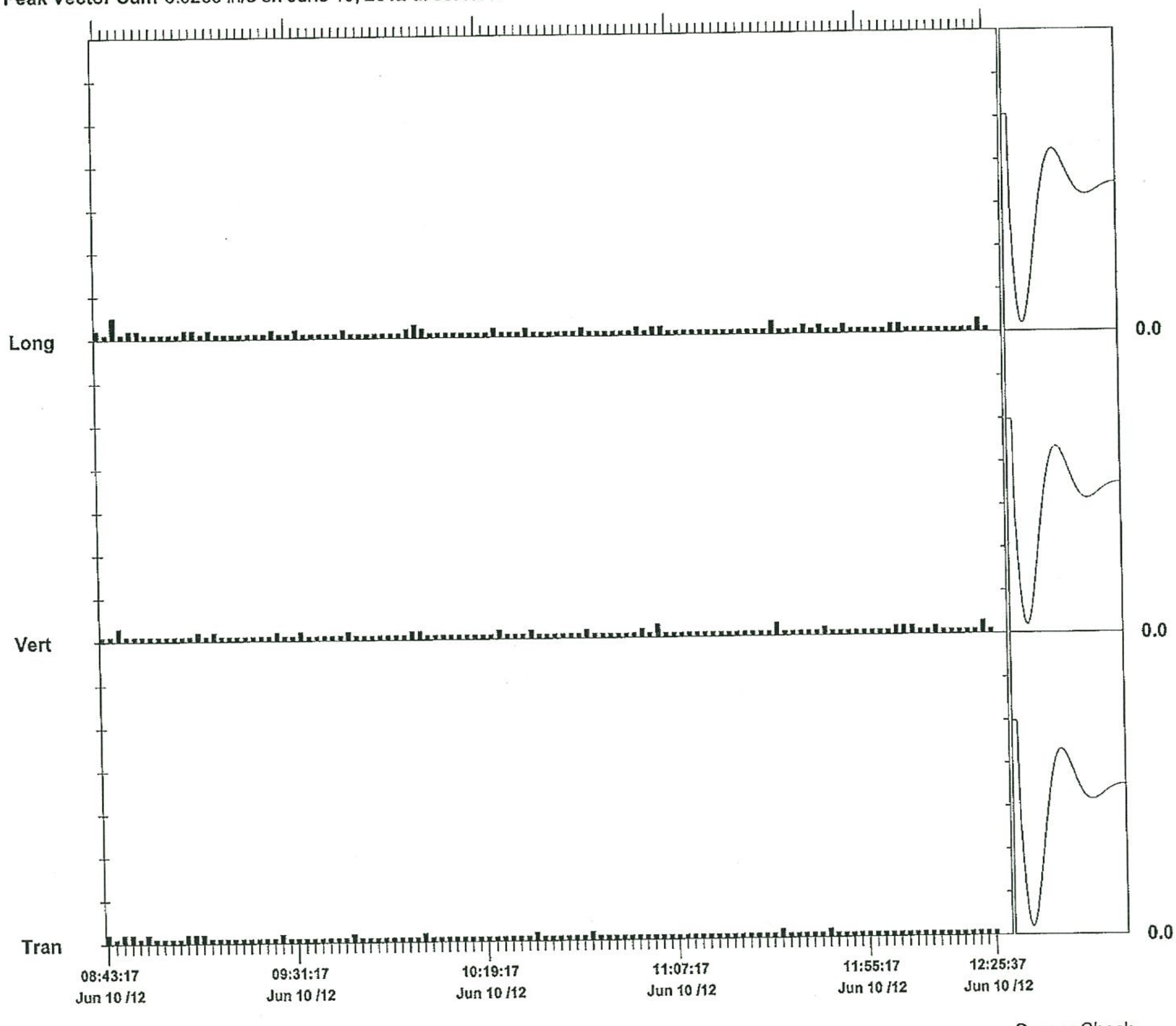
Histogram Start Time 08:41:17 June 10, 2012
Histogram Finish Time 12:25:37 June 10, 2012
Number of Intervals 897.00 at 15 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location:
Client:
User Name:
General:

Serial Number BA7195 V 10.30-8.17 BlastMate III
Battery Level 6.1 Volts
Unit Calibration February 17, 2012 by Instantel
File Name I195EBJX.GT0

Extended Notes

	Tran	Vert	Long	
PPV	0.01000	0.0150	0.0250	in/s
ZC Freq	>100	24	20	Hz
Date	Jun 10 /12	Jun 10 /12	Jun 10 /12	
Time	08:41:32	08:46:47	08:46:47	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.3	Hz
Overswing Ratio	3.6	3.5	3.9	

Peak Vector Sum 0.0269 in/s on June 10, 2012 at 08:46:47



Time Scale:2 minutes /div **Amplitude Scale:**Geo: 0.0500 in/s/div

Printed: June 12, 2012 (V 10.30 - 10.30)

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Instantel

GSA WILSHIRE LOT - BASELINE

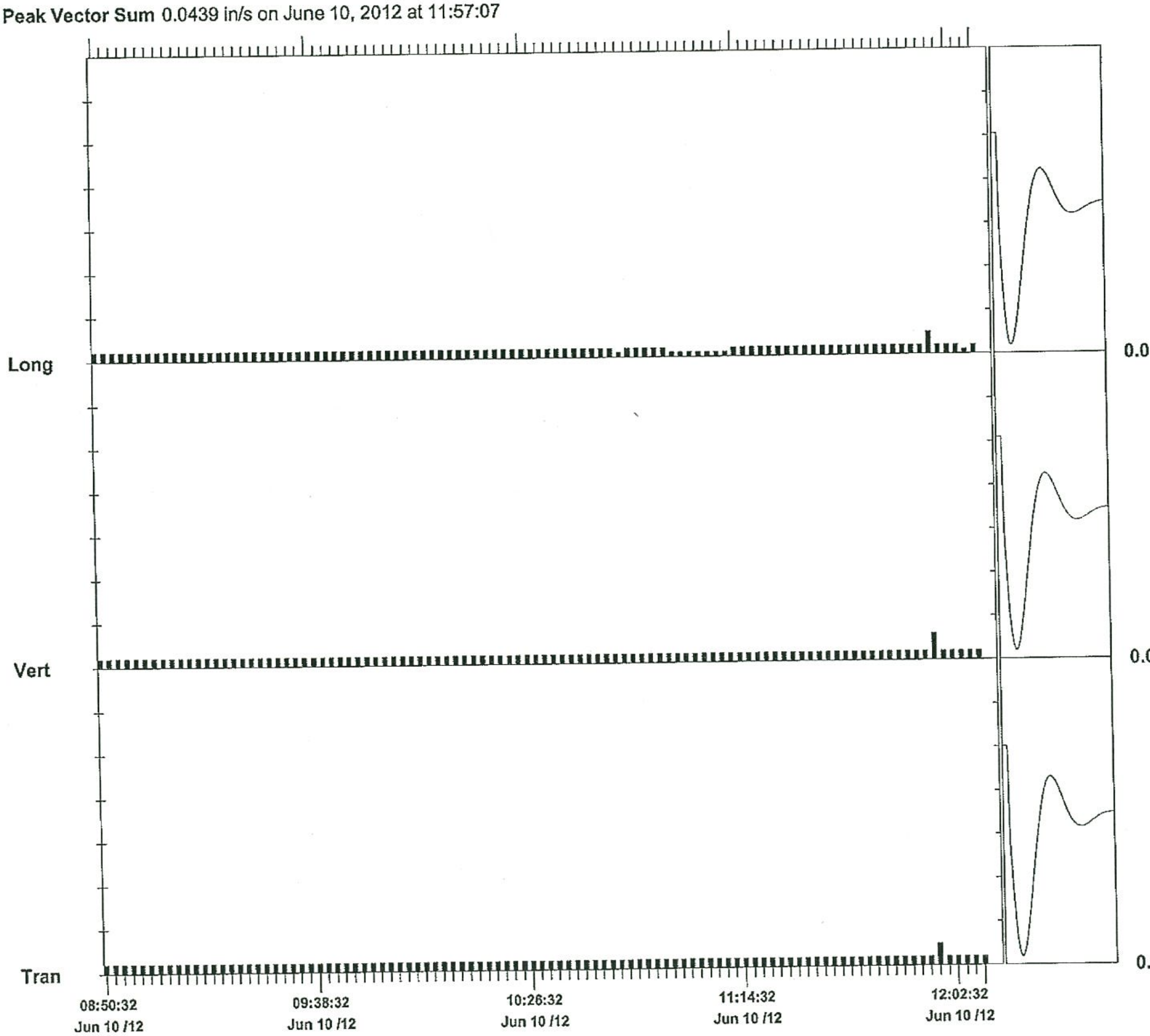
TGR

Histogram Start Time	08:48:32 June 10, 2012
Histogram Finish Time	12:08:27 June 10, 2012
Number of Intervals	2398.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	2048sps
Notes	

Serial Number	BA7606 V 10.30-8.17 BlastMate III
Battery Level	6.1 Volts
Unit Calibration	February 17, 2012 by Instantel
File Name	I606EBJX.SW0

	Tran	Vert	Long	
PPV	0.0250	0.0300	0.0250	in/s
ZC Freq	<1.0	<1.0	<1.0	Hz
Date	Jun 10 /12	Jun 10 /12	Jun 10 /12	
Time	11:57:07	11:57:07	11:57:07	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.4	7.3	Hz
Overswing Ratio	3.6	3.8	3.9	

Peak Vector Sum 0.0439 in/s on June 10, 2012 at 11:57:07



Time Scale:2 minutes /div Amplitude Scale:Geo: 0.0500 in/s/div

Printed: June 12, 2012 (V 10.30 - 10.30)

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Instantel GSA WILSHIRE LOT - BASELINE

TGR

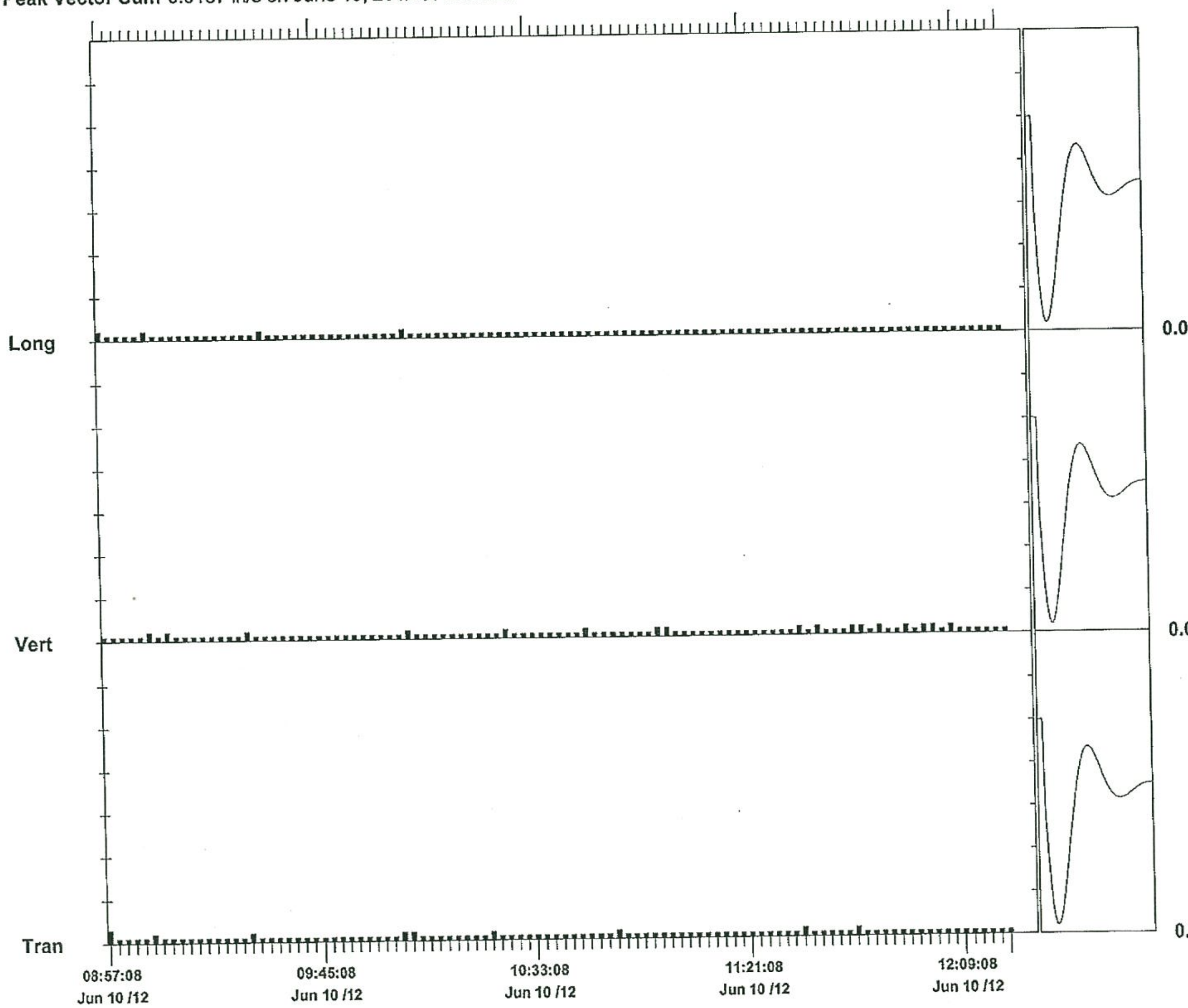
Histogram Start Time	08:55:08 June 10, 2012	Serial Number	BA7014 V 10.30-8.17 BlastMate III
Histogram Finish Time	12:18:43 June 10, 2012	Battery Level	6.2 Volts
Number of Intervals	2442.00 at 5 seconds	Unit Calibration	February 17, 2012 by Instantel
Range	Geo:10.00 in/s	File Name	I014EBJY.3W0
Sample Rate	2048sps		

Job Number:
Notes
Client.
Project:
Location:
GPS:

Extended Notes

	Tran	Vert	Long	
PPV	0.0150	0.01000	0.01000	in/s
ZC Freq	>200	>200	>200	Hz
Date	Jun 10 /12	Jun 10 /12	Jun 10 /12	
Time	08:55:23	09:06:13	08:55:23	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.6	7.3	Hz
Overswing Ratio	3.4	3.3	3.5	

Peak Vector Sum 0.0187 in/s on June 10, 2012 at 08:55:23



Time Scale:2 minutes /div **Amplitude Scale:**Geo: 0.0500 in/s/div

Printed: June 12, 2012 (V 10.30 - 10.30)

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GSA WILSHIRE LOT - BASELINE

Instantel

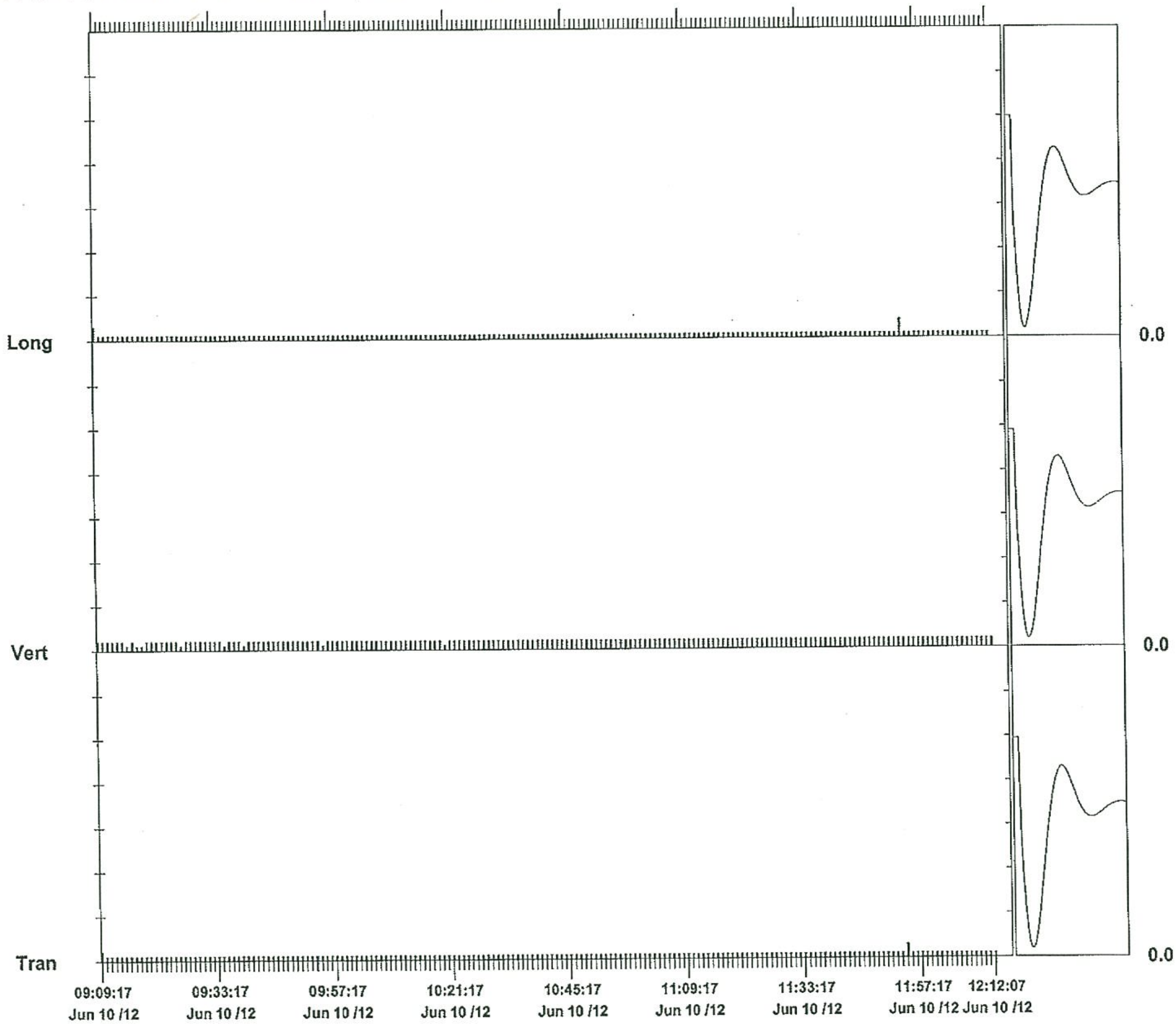
TGR

Histogram Start Time	09:08:17 June 10, 2012
Histogram Finish Time	12:12:07 June 10, 2012
Number of Intervals	735.00 at 15 seconds
Range	Geo:10.00 in/s
Sample Rate	2048sps
Notes	

Serial Number	BA8177 V 10.31-8.17 BlastMate III
Battery Level	6.3 Volts
Unit Calibration	May 16, 2012 by Instantel
File Name	J177EBJY.PT0

	Tran	Vert	Long	
PPV	0.0150	0.01000	0.0200	in/s
ZC Freq	>200	>200	146	Hz
Date	Jun 10 /12	Jun 10 /12	Jun 10 /12	
Time	11:54:17	09:08:32	11:54:17	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.6	Hz
Overswing Ratio	3.6	3.6	3.7	

Peak Vector Sum 0.0212 in/s on June 10, 2012 at 11:54:17



Time Scale:1 minute /div **Amplitude Scale:**Geo: 0.0500 in/s/div

Sensor Check

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Earth Mechanics, Inc.

Geotechnical & Earthquake Engineering

November 23, 2009 EMI Project No. 09-125

HNTB Corporation
6060 Center Drive, Suite 200
Los Angeles, California 90045

Attention: Mr. Michael Kraman, Project Manager

Subject: **Foundation Report for Sepulveda Boulevard Undercrossing**
Eastbound Wilshire Boulevard On-Ramp to Northbound I-405
Bridge No. 53-3021S
I-405 Sepulveda Pass Widening Design-Build Project
Los Angeles, California
07-LA-405, PM 31.47, EA 120301

Dear Mr. Kraman:

Earth Mechanics, Inc. (EMI) is pleased to present the results of our geotechnical investigation for the proposed Sepulveda Boulevard Undercrossing (UC) of the Eastbound Wilshire Boulevard On-Ramp to Northbound I-405 in Los Angeles, California. The subject bridge is part of the I-405 Sepulveda Pass Widening Design-Build project being delivered by Kiewit Pacific Co. (Kiewit) and their lead design consultant, HNTB Corporation (HNTB) under contract to the Los Angeles County Metropolitan Transportation Authority (LACMTA).

EMI prepares this report in accordance with the requirements outlined in the Amendment No. 6 TP-Section 08-Geotechnical, Version 3.40. Attached please find the results of our subsurface explorations and laboratory testing, our interpretation of the geologic and geotechnical conditions encountered, and recommendations for the design and construction of the subject bridge foundations. We trust that this report contains adequate information to be submitted to Caltrans and LACMTA for their review and approval for 'early release for construction'.

We appreciate the opportunity to provide geotechnical design services for all bridges of this design-build project. If you have any questions, please contact us at (714) 751-3826.

Sincerely,
EARTH MECHANICS, INC.

Amir Zand, RCE 73910
Project Engineer

Andrew Lee, RGE 2616
Geotechnical Task Lead

Hubert Law, RCE 55784
Principal

FOUNDATION REPORT

SEPULVEDA BOULEVARD UNDERCROSSING
EASTBOUND WILSHIRE BOULEVARD ON-RAMP TO NORTHBOUND I-405
BRIDGE NO. 53-3021S
I-405 SEPULVEDA PASS WIDENING DESIGN-BUILD PROJECT
LOS ANGELES, CALIFORNIA
07-LA-405, PM 31.47
EA 120301

Prepared for:

HNTB Corporation
6060 Center Drive, Suite 200
Los Angeles, California 90045

Prepared By:

Earth Mechanics, Inc.
17660 Newhope Street, Suite E
Fountain Valley, California 92708

EMI Project No. 09-125

November 23, 2009

Interstate 405 Sepulveda Pass Widening Project

07-LA-405 PM 28.8/39.0 EA 120301

Foundation Report for Sepulveda Boulevard Undercrossing (Replace) Eastbound Wilshire Boulevard On-Ramp to Northbound I-405, Bridge No. 53-3021S 07-LA-405, PM 31.47, EA 120301

Prepared for

State of California
Department of Transportation

Los Angeles County
Metropolitan Transportation Authority

By

Kiewit

Earth Mechanics, Inc.
Geotechnical and Earthquake Engineering

HNTB

6060 Center Drive
Los Angeles, CA 90045

November 23, 2009

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Section **Page**

APPENDICES

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE OF STUDY

The I-405 Sepulveda Pass Widening Design-build team is led by Kiewit Pacific Co. (Kiewit) as the prime contractor and HNTB Corporation (HNTB) as the prime design consultant. EMI is a subconsultant of HNTB, who specifically, assists the design-build team in geotechnical engineering for the design and construction of all bridges of the project; while earth retaining structures, sound walls, sign structures, culverts, permanent cut and fill slopes, and pavement design for the project will be delivered by other HNTB subconsultants.

This Foundation Report presents the findings and conclusions of a geotechnical investigation performed by EMI for the proposed Sepulveda Blvd. UC of the Eastbound (EB) Wilshire Blvd. On-Ramp to Northbound (NB) I-405 in the City of Los Angeles, California.

The geotechnical services provided for this new bridge included the following tasks:

- Collection and review of existing geotechnical information;
- Field exploration consisting of drilling and logging exploratory borings;
- Laboratory testing of selected bulk and relatively undisturbed soil samples;
- Engineering calculations (see Appendix C) and analysis to develop foundation design and construction recommendations; and
- Preparation of this report to present our findings, conclusions and recommendations.

1.2 PROJECT DESCRIPTION

1.2.1 Overview

LACMTA in partnership with California Department of Transportation (Caltrans) adopted a design-build approach in widening of an about ten-mile segment of the Interstate-405 (I-405) through Sepulveda Pass approximately between Interstate-10 (I-10) to the south and US Route-101 (US-101) to the north in the City of Los Angeles, California. I-405 is a major north-south oriented transportation corridor connecting southern Greater Los Angeles with San Fernando Valley communities in the City of Los Angeles. The segment of I-405 within the project limits is currently operating at a deficient level for most of the day due to the lack of High Occupancy Vehicle (HOV) lane and non-standard lane widths. As a result of population growth and urban sprawling, increased traffic volume is causing heavy traffic congestion and above average accident rate along the project alignment.

The I-405 Sepulveda Pass Widening project is part of LACMTA's long-term strategic goals of reducing traffic congestion and air emissions throughout local communities along the project alignment. It involves engineering, procurement and construction of 10 miles of HOV lane and correcting non-standard lane widths by widening the freeway in the northbound direction. The addition of the northbound HOV lane will close the current HOV lane gap from the County line to State Route-90 (SR-90). The widening project necessitates the realignment of existing on- and off-ramps, removal and replacement of ten (10) bridge structures, widening thirteen (13) bridges and ramps, installing eighteen (18) miles of retaining and sound walls, and performing roadway improvements on adjacent city streets.

1.2.2 Existing Facilities

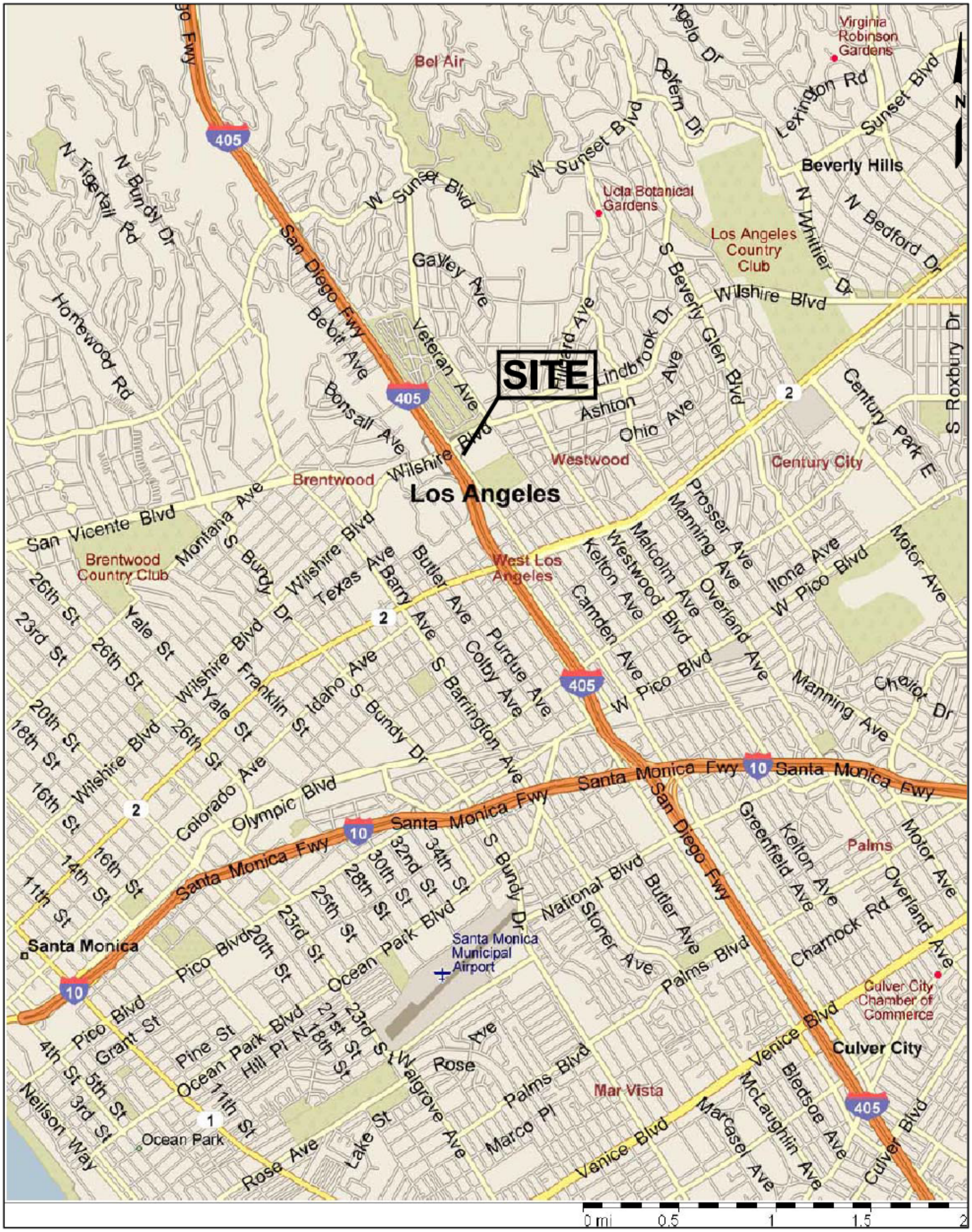
The EB Wilshire Blvd. On-ramp to NB I-405 is part of the NB I-405/Wilshire Boulevard interchange. The site is located on the southeast corner of the intersection of Wilshire Boulevard and Sepulveda Boulevard in the Westwood area of the City of Los Angeles, California.

Wilshire Boulevard is a major east-west oriented, local arterial roadway. At its intersection with I-405, Wilshire Boulevard has two left-turn lanes, four through lanes and one auxiliary lane in the westbound direction; and one left-turn lane, three through lane and one auxiliary lane in the eastbound direction.

The site is located in a commercial district surrounded primarily by high-rise commercial and federal buildings. The Federal Building is located to the east of the site. The Veteran Medical Center and the Veteran Administration campus are located across the freeway to the south and north of the Wilshire Boulevard, respectively.

The latitude and longitude of the site based on a NAD27 system are 34.055°N and 118.450°W. The general topography of the site descends gently towards the southeast. At the UC location, Sepulveda Blvd. slopes approximately 2% towards the south with an approximate ground surface elevation of +306 feet based on the 1998 NAVD system. The location of the project site relative to general topography, streets and landmarks is shown on Figure 1-1.

The existing Sepulveda UC (Bridge No. 53-1099Y) is a single span structure that carries EB Wilshire Blvd. On-Ramp traffic to NB I-405 over Sepulveda Boulevard. According to the as-built drawings reviewed, the existing structure is a reinforced concrete box girder bridge with closed-end, high-seated cantilever abutments constructed in 1957. The length of the structure is about 80 feet measured along the on-ramp station line. Total width of the existing bridge is about 30.67 feet.



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SITE LOCATION MAP

Page 3
Figure 1-1

SEPULVEDA BLVD. U.C. - BRIDGE NO. 53-3021S

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1.2.3 Proposed Structures

The proposed improvement consists of removing the existing structure (Bridge No. 53-1099Y) and replacing it with a new bridge which will be located approximately 80 feet south of the existing bridge. Proposed new bridge will be an eight-span reinforced concrete box girder bridge structure approximately 1,198 feet long and 43 feet wide with closed-end, high-seated cantilever abutments. General Plan of the proposed bridge is shown on Figure 1-2. Underground utilities in conflict with construction will be either relocated or protected in place.

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[redacted]

2.0 FIELD INVESTIGATION AND LABORATORY TESTING

2.1 DATA REVIEW

Our subsurface investigation included reviewing available geotechnical and geologic information. Copies of the as-built Log-of-Test-Borings (LOTB) sheets reviewed are included in Appendix A. About 2.4 feet should be added to the elevation on the as-built LOTB sheet to match the current vertical datum (NAV 88).

According to these as-built LOTB sheets, the past boring information relevant to the proposed bridge can be summarized in Table 2-1. It should be noted that Borings B-1 and B-3 of Bridge 53-0710 are located on the east side of I-405 freeway and are not used in this study.

TABLE 2-1. AS-BUILT EXPLORATION INFORMATION

Date of Drilling	Boring No.	Type	Approx. Ground Surface El. (ft)	Approx. Bottom of Hole El. (ft)	Water Level El. (ft)
May 1953	B-1 (Bridge 53-1099Y)	Penetrometer	+305.4	+247	Not Encountered During Drilling
June 1954	B-2 (Bridge 53-1099Y)	Penetrometer	+305.2	+248	
July 1954	B-3 (Bridge 53-1099Y)	Rotary-wash	+3307.9	+247	
May 1953	B-1 (Bridge 53-1100)	Penetrometer	+316.2	+247	Not Encountered During Drilling
June 1954	B-2 (Bridge 53-1100)	Penetrometer	+319.3	+257	
July 1954	B-3 (Bridge 53-1100)	Rotary-wash	+317.3	+261	
May 1954	B-2 (Bridge 53-0710)	Rotary-wash	+315	+257	Not Encountered During Drilling
July 1954	B-4 (Bridge 53-0710)	Rotary-wash	+316	+256	
June 2007	R-07-0005	Rotary-wash	+309.35	+207.9	+246.8
July 2007	CPT-07-0016	CPT	+309.35	+212.7	Not Measured
September 2007	CPT-07-1102	CPT	+321.78	+317.6	Not Measured

2.2 FIELD INVESTIGATION

To supplement the existing subsurface data, three geotechnical borings and three CPTs were performed close to the alignment of the proposed bridge on July 27, August 8 and August 9, 2009. Boring information, including exploration number, stations, offsets, ground surface elevations, bottom of borehole elevations and water level measurements are summarized in Table 2-2. Locations of the exploratory boring are shown on the LOTB sheets included in Appendix A.

Drilling and sampling were performed in general compliance with the project Health and Safety Plan (HSP). The HSP generally addresses the potential risks associated with conducting subsurface explorations at the project site, and includes the following information:

1. Specific protective equipment for on-site field explorations; and
2. Measures to be implemented in the event of an emergency.

The drilling subcontractors were briefed by our field representative with details of the HSP prior to the start of our daily field exploration activities.

Exploratory boring was drilled using rotary-wash technique with a truck-mounted drill rig equipped with a 5-inch diameter auger. When subsurface conditions permitted, alternating relatively undisturbed soil sampling and Standard Penetration Test (SPT) were performed in the boring at 5-foot depth intervals.

TABLE 2-2. GEOTECHNICAL EXPLORATION INFORMATION

Boring No.	Station Line	Station	Approx. Offset (ft)	Approx. Ground Surface El. (ft)	Approx. Bottom of Hole El. (ft)	Water Level El. (ft)
R-09-014	RTE 405 C/L	1663+60	104 ft RT	+332	+230.5	Not Encountered During Drilling
R-09-015		1665+30	120 ft RT	+335	+233.5	Not Encountered During Drilling
R-09-016		1668+67	128 ft RT	+340	+260.3	Not Encountered During Drilling
CPT-09-054		1663+10	100 ft RT	+330	+318.5	Not Encountered During Drilling
CPT-09-056		1667+41	121 ft RT	+340.5	+260.8	Not Encountered During Drilling
CPT-09-057		1667+59	319 ft RT	+339	+242	Not Encountered During Drilling

Relatively undisturbed drive samples were obtained using a Modified California split-spoon sampler (3.25-inch outer diameter) lined with brass rings. Each of these brass rings is 1-inch long with a 2.5-inch outside diameter. The SPT were performed with a SPT sampler (1.4-inch inside diameter) without liners. Both Modified California split-spoon sampler and SPT sampler were driven into the ground using a 140-lb hammer free falling from a height of 30 inches. The numbers of blows to advance the SPT sampler was recorded at every 6 inches of penetration, or until refusal. Only the total numbers of blow for the final 12 inches or less of driving are shown on the LOTB sheet. The total blowcounts required to drive the SPT sampler for the last 12 inches was referred as the Standard Penetration Resistance (N-value).

CPT soundings were performed using an electronic cone penetrometer in general accordance with current ASTM Standards (ASTM D5778 and ASTM D3441). The CPT equipment consists of a cone penetrometer assembly mounted at the end of a series of hollow sounding rods. The cone penetrometer assembly is consisting of a conical tip with a 60˚ apex angle and a projected cross sectional area of 1.55 in^2 (10 cm^2) and a cylindrical friction sleeve with a surface area of 23.25 in^2 (150 cm^2). The interior of the cone penetrometer is instrumented with strain gauges that allow simultaneous measurements of cone tip and friction sleeve resistance during penetration. The cone penetrometer assembly is continuously pushed into the soil by a set of hydraulic rams at a standard rate of 0.79 inch per second (20 mm per second) while the cone tip resistance and sleeve friction resistance are recorded every 1.967 inches (50 mm) and stored in digital form. A specially designed all-wheel drive 25-ton truck provides the required reaction weight for pushing the cone assembly and is also used to transport and house the testing equipment. The computer generated graphical logs include tip resistance, friction resistance, and friction ratio. Soil behavior type interpretations are based on guidelines by Robertson and Campanella (1983).

2.3 LABORATORY TESTING

Soil samples considered representative of the subsurface conditions were tested to obtain or derive relevant physical and engineering soil properties. The following laboratory tests were conducted to supplement the observations recorded during the field investigation:

- In-situ Moisture Content and Unit Weight
- Plasticity Index
- Particle Size Analysis
- Direct Shear
- Consolidation
- Minimum Resistivity, pH, Sulfate Content and Chloride Content

The laboratory tests were conducted in general accordance with California Test Methods or American Society for Testing and Materials (ASTM) Standards. Laboratory test results are included in Appendix B.

3.0 GEOLOGY AND SEISMICITY

3.1 TOPOGRAPHY AND DRAINAGE

The project comprises a north-south trending corridor across the Santa Monica Mountains from the Los Angeles Basin in the south to the San Fernando Valley in the north (Figure 3-1). The crest of the Santa Monica Mountains in the project area is about 1400 to 1500 feet elevation. Drainages in the Santa Monica Mountains are generally longer on the south flank and generally drain to the south; the shorter drainages on the northern flank generally drain northerly. The major drainage on the south flank is Sepulveda Canyon.

The south end of the project is at the I-10 freeway which extends east-west across the Santa Monica and Sawtelle plains at the north margin of the Los Angeles Basin. The Santa Monica Plain is a flat, somewhat elevated alluvial surface that slopes gently southerly from the south flank of the Santa Monica Mountains. Elevations range from about 500 feet along the mountain margin to about 150 feet at the I-10 freeway. The Sawtelle Plain is a lower elevation alluvial plain along the south side of the Santa Monica Plain which receives the drainage from Sepulveda Canyon. The project corridor extends northerly across these plains into Sepulveda Canyon.

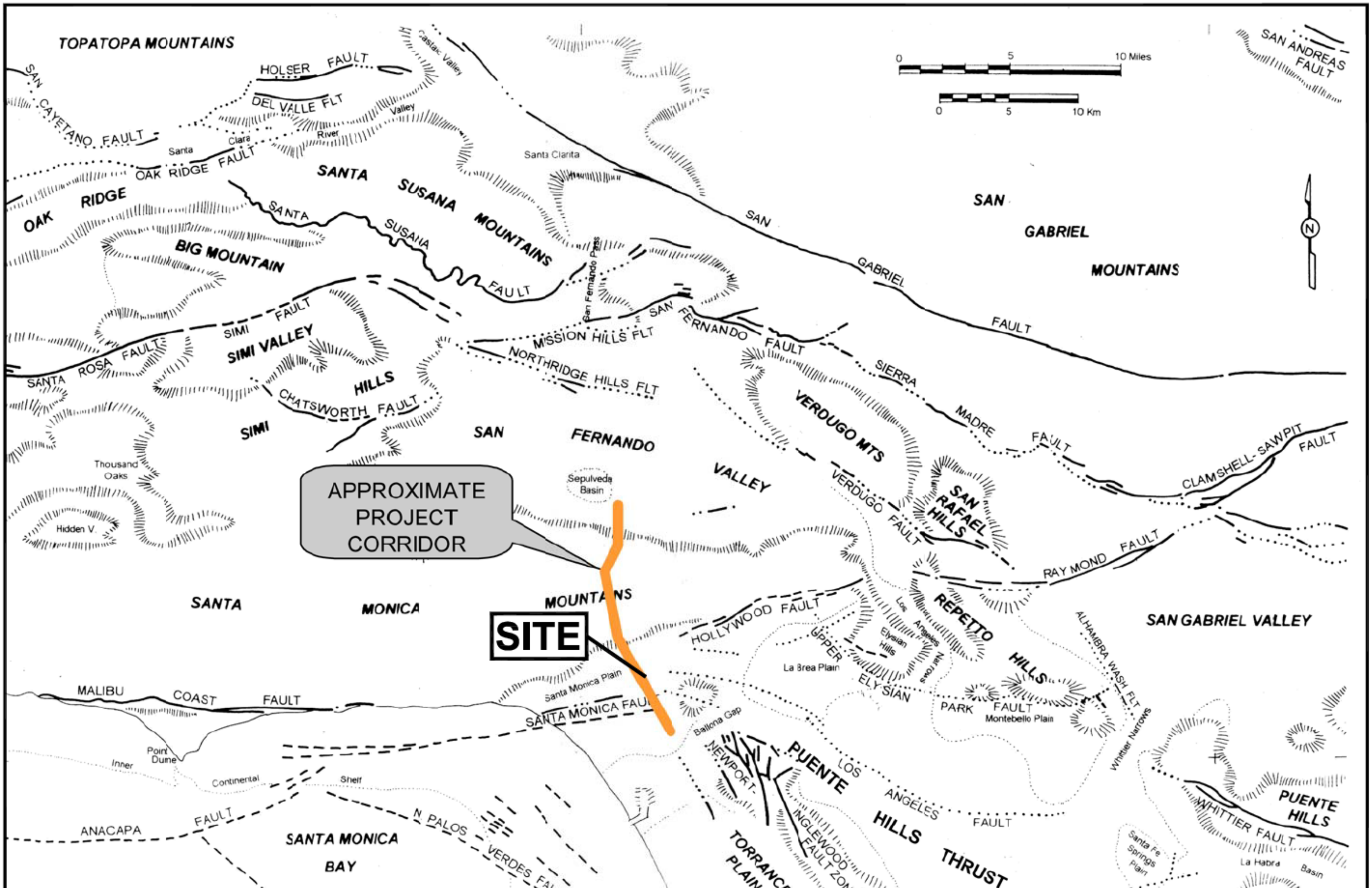
The north end of the project corridor is in the San Fernando Valley which is an east-west trending alluvial valley within the western Transverse Ranges. The southern margin of the valley is at about 700 feet elevation. The lowest elevations in the valley are generally about 650 feet and these occur in the southern part of the valley. The lowest part of the Valley is occupied by the Los Angeles River, which flows easterly along the southern margin of the valley. The river receives runoff from the north-south trending intermittent streams in the Valley and north flowing drainages from the Santa Monica Mountains.

3.2 PHYSIOGRAPHY

The Santa Monica Mountains are an east-west trending linear mountain range within the western Transverse Ranges physiographic/geologic province. The Transverse Ranges province trends east-west from the offshore Channel Islands (Santa Rosa, Santa Cruz, Anacapa, etc) to the eastern Mojave Desert. The province is characterized by east-west trending mountain ranges such as the Santa Monica Mountains, San Gabriel Mountains, and San Bernardino Mountains) and separated by similar trending intermontane valleys. The San Fernando Valley to the north of the Santa Monica Mountains is one of these valleys. The Los Angeles Basin on the south side of the range is one of a series of basins forming a transition zone between the Transverse Ranges and the northwest-southeast trending Peninsular Ranges Physiographic province to the south.

3.3 FAULTING

The major faults in the project corridor vicinity are the Santa Monica, Hollywood, and Benedict Canyon faults (Figures 3-1 and 3-2). The Santa Monica and Hollywood Faults are part what has been referred to as the frontal fault system, or more commonly the Transverse Ranges Southern Boundary fault system. Other faults comprising the fault system include the Raymond Fault to the east of the project, and the Anacapa-Dume, Malibu Coast, Santa Cruz Island and Santa Rosa Island faults to the west of the project.



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SEPULVEDA BLVD. UC - BRIDGE NO. 53-3021S

REGIONAL FAULT AND PHYSIOGRAPHIC MAP

Figure 3-1

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Among the major faults, the fault of interest to the project is the Santa Monica fault. The Santa Monica fault extends from Pacific Palisades to West Los Angeles, where it merges with the Hollywood fault by means of the West Beverly Hills Lineament in Beverly Hills. Although the fault is believed to be a major element of the southern boundary fault system of the Santa Monica Mountains, it is poorly known and even less well understood. The fault is recognized in oil wells as forming the contact between the Santa Monica Slate and the Tertiary sedimentary rocks. The fault has been considered by many geologists to be represented on the surface by a series of east-west trending escarpments on the Santa Monica Plain. However, several geological trenching investigations (Crook et al., 1992: Pratt et al., 1998), although finding small vertical faults, have not been successful in finding a major thrust fault.

A recent geophysical investigation by Catchings et al. (2008) suggests that the Santa Monica fault zone consists of multiple strands, both vertical and thrust, at shallow depths. They interpreted seismic-reflection data in the Veterans Administration Hospital area (between Santa Monica Boulevard and Wilshire Boulevard) as showing two low-angle fault strands and multiple near-vertical (~85^{o}) faults in the upper 300 feet. One of the low-angle faults dips northward at about 28^{o} and approaches the surface at the base of the topographic scarp on the grounds of the VA hospital. The other principal fault dips northward at about 20^{o} and projects to about 600 feet south of the topographic scarp to near Santa Monica Boulevard. One of the more important conclusions of their study for this project is that neither the seismic imaging studies nor the trenching studies are consistent with the presence of a reverse fault directly associated with the topographic scarp at the Veterans Administration hospital grounds.

Information from greater depths such as the oilfield data (see for example, Tsutsumi et al., 2001, Wright, 1991; Dibblee, 1991) provides information to much greater depths (~10,000 feet) and indicates that there are other deeper branches to the Santa Monica fault system. Data from the Sawtelle Oil field indicate that there is a fault(s) at about 9,500 feet depth dipping at shallow angles (~ 30^{o}) like those discussed by Catchings et al, but at much greater depths. These faults project much farther south than the area of the surface scarps, perhaps south of the Santa Monica Freeway. These relationships are similar to those in the offshore area of Santa Monica Bay where geophysical data suggest that there is a deep low-angle branch to the Santa Monica fault system. Catchings et al (2008) suggest that such deeper branches are not active, but there are abundant small earthquakes in the region that indicate seismically active faults well south of the surficial southern boundary fault system represented by the Malibu Coast-Santa Monica-Hollywood fault system.

The Hollywood fault extends east from it's junction with the Santa Monica fault at the West Beverly Hills Lineament to the east to the Los Angeles River and the Raymond fault. Studies of the Hollywood fault indicate that it is an oblique, reverse left lateral fault (Dolan et al 1997). The Hollywood fault segment of the southern boundary fault system is steeply dipping to the north. Along most of its length, the Hollywood fault is located near the base of the Hollywood Hills portion of the Santa Monica Mountains. Towards the west, in the area of Beverly Hills, the location of the fault is poorly expressed geomorphically. Due to its location in a heavily urbanized area, the Hollywood fault has not been extensively studied by use of trenching activities. Therefore, the slip rates and recurrence intervals are not well constrained. Dolan speculates that earthquakes larger than Mw 6.6 would involve simultaneous rupture of the Hollywood fault in conjunctions with other segments of the Transverse Ranges Southern Boundary fault system.

Earth Mechanics, Inc. Geotechnical & Earthquake Engineering	REGIONAL FAULT MAP Figure 3-2 Page 12		
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The Benedict Canyon fault extends from the Kenter Canyon area to the west of the project corridor to the northeast, where it becomes concealed in alluvial deposits of the San Fernando valley in the area of Universal City. It is considered to be a splay to the Santa Monica fault and consists of a near vertical trace with secondary sub-parallel traces. The fault exhibits oblique left lateral traces with possible reverse components. Studies performed by Robinson (2003) of calcite filled joints and fractures within the bedrock units involved in faulting indicate that calcite cementation is pre-Pleistoce.

Secondary faults in the project vicinity include the Charnock and Overland faults. These faults sub-parallel the Newport Inglewood Fault Zone and are considered secondary features to the Newport Inglewood Fault Zone. These faults have not been fully studied but are considered to be right lateral strike slip faults with some component of near vertical displacement. Both of these faults are considered potentially active. Additional studies of the Charnock fault by Poland et al (1959) indicate that it is a partial ground water barrier in its northern extents.

In addition to the known surface faults, the Los Angeles region appears to be underlain by buried thrust and reverse earthquake faults. These are poorly understood features with unknown locations and orientations. The 1987 Whittier earthquake occurred on one of these buried faults under the Puente and Repetto Hills. None of these known or suspected features (except the Santa Monica fault) appear to be significant with respect to the project.

3.4 SEISMICITY

The site is located within the seismically active area of Southern California, but outside a Fault Hazard Zone defined by the Alquist-Priolo Earthquake Hazards Act (APEHA) of 1972 revised in 1994. As illustrated by the following sections and analysis, the site is expected to experience moderate to severe ground shaking from both near and distant earthquake sources during the life of the proposed structure. The type and magnitude of the seismic hazard affecting the site are dependent on the distance and causative faults and the intensity and magnitude of the seismic event.

The present-day seismotectonic stress field in the Los Angeles region is one of north-northeasterly compression. This is indicated by the geologic structures, by earthquake focal-mechanism solutions, and by geodetic measurements. These data suggests crustal shortening of between 5 and 9 mm/yr across the greater Los Angeles area.

Historical epicenter maps show widespread seismicity throughout the region. Although the historical earthquakes occur in proximity to known faults, they are difficult to directly associate with mapped faults. Part of this difficulty is due to the fact that the basin is underlain by several subsurface thrust faults (blind faults). Earthquakes in the Los Angeles region occur primarily as loose clusters along the Newport-Inglewood Structural Zone, along the southern margin of the Santa Monica Mountains, the margin between the Santa Susana-San Fernando Valley and the southern margin of the San Gabriel Mountains, and in the Coyote Hills-Puente Hills area.

The largest historical earthquakes in the region were the 1994 Northridge and the 1971 San Fernando earthquake. The 1994 earthquake had a moment magnitude (M_W) of about 6.7 (M_S = 6.8, M_L = 6.4), and occurred on a southerly dipping subsurface fault which was unknown prior to the earthquake. The epicenter of the event was near the corner of Nordhoff Street and Reseda Boulevard. The main shock occurred at a depth of about 19 km. Earthquake aftershocks clearly defined the rupture surface dipping about 35 degrees southerly from a depth of about 2 or 3 km to 23 km (Hauksson et al, 1995). The causative fault was never identified with certainty. The event may have occurred on an eastern extension of the Oakridge fault (Yeats and Huftile, 1995), a southerly dipping feature fault bounding the Ventura Basin and the Santa Susana Mountains (Figure 3-1).

The 1971 San Fernando earthquake was of similar size (M_W = 6.7, M_S = 6.4, M_L = 6.4) to the 1994 event but did involve surface rupture. The 1971 event occurred on a northerly dipping thrust fault that dips from the northern side of the San Fernando Valley to a depth of about 15 km under the San Gabriel Mountains. Several mapped surface faults were involved such as the Sylmar fault, Tujunga fault, and Lakeview fault. These faults are commonly considered to be part of the Sierra Madre fault system, which extends easterly from the San Fernando Valley to the north side of the San Gabriel Valley, and to the Cucamonga fault in the San Bernardino area.

Another major historical earthquake in the Los Angeles region was the 1933 Long Beach event which had a magnitude of about M_W = 6.4 (M_L = 6.3). This earthquake did not rupture the surface but is believed to have been associated with the Newport-Inglewood Structural Zone (NISZ), a major strike-slip fault in the Los Angeles Basin (Benioff, 1938). The association was based on abundant ground failures along the NISZ trend but no unequivocal surface rupture was identified. Reevaluation of the seismicity data by Hauksson and Gross (1991) relocated the 1933 earthquake hypocenter to a depth of about 6 miles below the Huntington Beach-Newport Beach city boundary. (Hauksson and Gross, 1991).

The 1987 Whittier earthquake (M_L = 5.9, M_W = 5.9) occurred on subsurface faults dipping under the Puente Hills to about 10 miles beneath the San Gabriel Basin (Shaw and Shearer, 1999). This event did not rupture the ground surface.

Another significant earthquake in the region was the 1812 earthquake which caused damage at the San Juan Capistrano Mission. The location and magnitude of the 1812 earthquake are unknown because of the sparse population at the time, but recent geological studies (Jacoby et al, 1988; Fumal et al, 1993; Weldon et al., 2004) postulated that it did not occur in the Capistrano area, but rather was a large (M> 7.0) distant event on the San Andreas fault in the Wrightwood area of the San Gabriel Mountains.

The earliest documented earthquake in the region was reported by the Portola expedition as they camped near the Santa Ana River in 1769. This event has been attributed by various geoscientists to just about every fault in the Los Angeles area but it could just as well have been a distant event that shook a wide area as did the 1971 San Fernando, the 1987 Whittier, and the 1994 Northridge events, as well as many other more-distant events (for example, 1992 Landers event).

3.5 STRATIGRAPHY

The stratigraphy and structure of the project area are quite complex due to multiple episodes of folding and faulting. The basic stratigraphy is characterized by Quaternary alluvium unconformably overlying a sequence of Quaternary and Tertiary marine sediments and sedimentary rocks that unconformably overlie middle Tertiary to Cretaceous marine sedimentary rocks (Dibblee, 1991; Yerkes and Campbell, 2005). All of these, in turn, unconformably overlie metamorphic basement rocks of the Santa Monica slate which forms the core of the Santa Monica Mountains along with Cretaceous-age igneous intrusive rocks. The multiple unconformities indicate several periods of uplift and erosion. The stratigraphic sequence is further complicated by faulting which has offset the geologic formations both laterally and vertically. The vertical displacements have thrust the Santa Monica slate over the Tertiary sedimentary rocks (Dibblee, 1991; Wright, 1991).

As introduced above, the corridor is underlain by nearly horizontal Quaternary sediments overlying Tertiary-age sediments and sedimentary rocks that have been deformed into folds and offset by faults. The sedimentary strata lap onto the Santa Monica slate that forms the core of the Santa Monica Mountains; bedrock units on the south flank generally dip southerly and bedrock units on the north flank generally dip northerly. The stratigraphic sequence is summarized on the following table and the surface distribution of geological units is shown on Figure3-3.

Alluvial deposits in this area are related to the Sawtelle Plain and the Santa Monica Plain. The Santa Monica Plain is an older dissected alluvial surface formed by coalescing fans originating from the Santa Monica Mountains. In turn, the Sawtelle Plain was formed by the dissection and erosion of the older Santa Monica Plain. Both the Santa Monica and Sawtelle plains slope gently to the southeast. The Sawtelle Plain has been an area of active oil well drilling, with current oil wells currently being developed.

Strata within the depth of interest for this project (i.e. shallower than 200 feet) consist predominantly of Quaternary alluvium along much of the southern part of the corridor from the Santa Monica freeway (I-10) to about Sunset Boulevard. These are likely to be Holocene alluvium from the freeway to Santa Monica Boulevard, and Holocene alluvium overlying Pleistocene alluvium from just north of Santa Monica Boulevard to about Sunset Boulevard. Locally, from Santa Monica Boulevard to Sunset Boulevard, Pleistocene marine deposits of the San Pedro Formation may be encountered below the alluvial deposits.

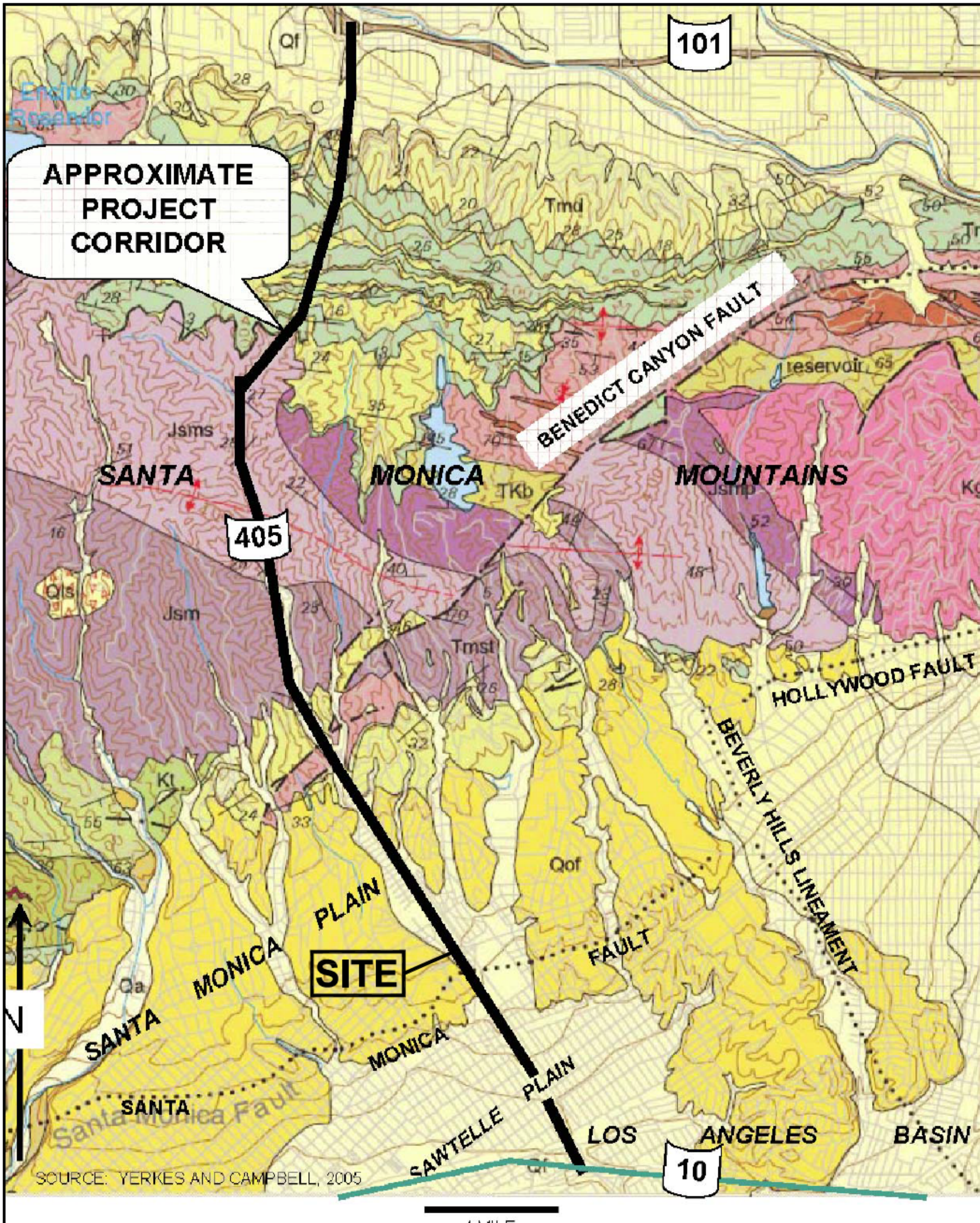
North of Sunset, the formations are primarily Holocene alluvium of Sepulveda Canyon but these deposits are shallow and bedrock of the Monterey Formation and the Cretaceous sedimentary rocks may be encountered (Figure 3-3). In the area near Getty Center Drive, the alluvium is confined within a very narrow strip along the axis of Sepulveda Canyon where it is underlain by Santa Monica Slate, which also comprises the canyon walls. The Santa Monica slate is exposed in the canyon walls to near Mulholland Drive near the crest of the Santa Monica Mountains.

The corridor from the crest down the north flank of the range is excavated into the Monterey Formation, which consists of interbedded mudstone and sandstone all dipping northerly at about 20^o ($\pm10^o$). Near the north base of the range at Sepulveda Boulevard Undercrossing (Bridge No. 53-740), the Monterey Formation is overlain by Quaternary alluvium (Qa) of the San Fernando Valley floor. The alluvium comprises the remainder of the corridor to the north end of the project at the

Ventura Freeway (US101). Much of the freeway is on embankment fill overlying the native alluvium and rocks.

TABLE 3-1. STRATIGRAPHIC INFORMATION

UNIT NAME	APPROXIMATE AGE	DESCRIPTION
YOUNG ALLUVIUM (Qa, Qyf, Qf): primarily on Sawtelle Plain and in Sepulveda Canyon	Holocene (0-10,000 yrs)	Sand, silt, clay, gravel; browns; derived from Santa Monica Mountains
OLD ALLUVIUM (Qof): primarily on elevated surfaces of Santa Monica Plain adjacent to Sepulveda Canyon	Late-Middle Pleistocene (10,000-300,000 yrs)	Sand and gravel; non indurated to weakly indurated,
SAN PEDRO (Qsp): primarily in subsurface of Sawtelle and Santa Monica Plains	Early to Middle Pleistocene (300,000 to 2 my)	Sand, silt, siltstone; gray, very dark gray, black; marine fossiliferous (snails, clams)
FERNANDO (Tf): subsurface of Sawtelle and Santa Monica Plains	Plicoene (2-5my)	Siltstone, mudstone, sandstone
MONTEREY (Modelo): south and north flanks of Santa Monica Mountains (Tmd, Tms, Tm)	Late Miocene (7-15 my)	Thin bedded mudstone, claystone, shale; light brown, light gray, white; diatomaceous, siliceous, porcelaneous. Sandstone; light brown to gray. Marine
TOPANGA (Tt): south and north flanks of Santa Monica Mountains	Middle to early Miocene (15-20 my)	Arkosic sandstone, claystone, cobble-pebble conglomerate (granitic and metavolcanic rocks); light brown to gray. Locally intruded by basaltic and andesitic volcanic rocks as lenticular flows and sills.
SANTA SUSANA (Ts): primarily subsurface, north flank Santa Monica Mountains	Paleocene (50 my)	Sandstone (fine grained), claystone, and conglomerate; light gray to light brown; fossils in nodules and concretions). Cobbles of smooth, well- rounded quartzite, metavolcanics, and igneous rocks; marine and nonmarine
CHICO(?)/TRABUCO(?)/TUNA CANYON (Ks, Kg, Kt Ktdb, Ktr, TKb) south flank of Santa Monica Mountains	Cretaceous (100 my)	Sandstone, conglomerate, some shale; conglomerate is crudely bedded cobbles of igneous, metamorphic, quartzite in hard sandstone matrix; marine
SANTA MONICA SLATE (sms, Jsm, Jsms) Central Santa Monica Mountains	Late Jurassic (~150 my)	Slate-phyllite and spotted slate (metamorphosed from shale); dark gray to black, weathers brown; platy, highly fractured; cleavage parallel to bedding.



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GEOLOGICAL MAP

Figure 3-3

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3.6 GEOLOGIC HAZARDS

3.6.1 Landsliding

The subject of landslides is a widely encompassing subject and can not be fully covered in a brief summary; however, landslides are downslope motions of conglomerations of earth materials or bedrock or combinations of both. Landslides are a more defined unit and are similar to slumps, but are on a larger scale. They can move in a translational movement or rotational settlement or motion. It occurs because of the loss of ability of earth materials to maintain their integrity at a specific gradient and settle or into lesser gradient or position of greater equilibrium. The internal strength of the material is lost and the material settles into a form where the mass is centralized on the downhill side of motion. The material is a cohesively connected unit that settles or moves as a unit. Landslides are usually associated with water because or water increasing the unit weight and decreasing the internal strength of the materials. The chance of a landslide occurring are increased by increases in slope gradient, looseness of materials, unfavorable bedding (out of slope), clay content of the bedrock, underground springs, unfavorable slope orientation with existing fault boundaries, human disturbance of the landslide or its boundaries, increases in groundwater, earthquake forces helping to mobilize the mass, looseness of materials in-situ, increases in water content and disturbance of the lateral confining forces and/ or the toe of a slope.

The existing I-405 roadway has been excavated into slopes along the margins of Sepulveda Canyon. The steep slopes along the margins of the canyon have a history of slope failures (California Geological Survey, 1997, 1998b). Due to the bridge sites' distance to the slope areas in the Sepulveda Pass, the potential for landslides and other forms of instability such as rock topple, debris flow and slump to affect the proposed bridge improvements is considered to be low. However, landsliding and slope stability should be addressed in the project Geotechnical Design Report for other areas of the project alignment.

3.6.2 Oilfield-Related Hazards

The Sawtelle Oilfield is located in the Wilshire area of the project corridor. In general, the oilfield is located on the east and west side of the 405 Freeway, and to the north and south of Wilshire Boulevard. The Sawtelle Oilfield was one of the earlier oil discovery sites in the Los Angeles basin and is currently active, though to a much smaller degree than in the early 1900s. The oilfield is tapping into structural traps formed in the underlying Monterey Formation by the Santa Monica and related faults. Of concern of oilfield-related geologic hazards are subsidence, soil contamination and methane gas migration.

The extraction of fluids (water or petroleum) from sedimentary source rocks can cause the permanent collapse of the pore space previously occupied by the removed fluid. The compaction of subsurface sediment caused by fluid withdrawal can cause subsidence of the ground surface overlying a pumped reservoir. If the volume of water or petroleum removed is sufficiently great, the amount of resulting subsidence may be sufficient to damage nearby engineered structures. For the Sawtelle Oilfield, the level of exploration has not reached a point of inducing subsidence. Therefore, the potential for subsidence in the oil field area of the project corridor is considered negligible.

Soil contamination is a common result of oil well exploration. This can occur in the area of the well head and also along any kind of piping servicing the well heads. The presence of soil contamination in the oilfield area may be present. However, the identification and locations of possible hydrocarbon soil contamination is beyond the scope of this report.

Methane gas is a relatively rare occurrence related to the presence of a close proximity oil trap. The oil traps of the Sawtelle Oilfield are at such a depth that the occurrence of methane gas is considered to be negligible.

3.7 SEISMIC HAZARDS

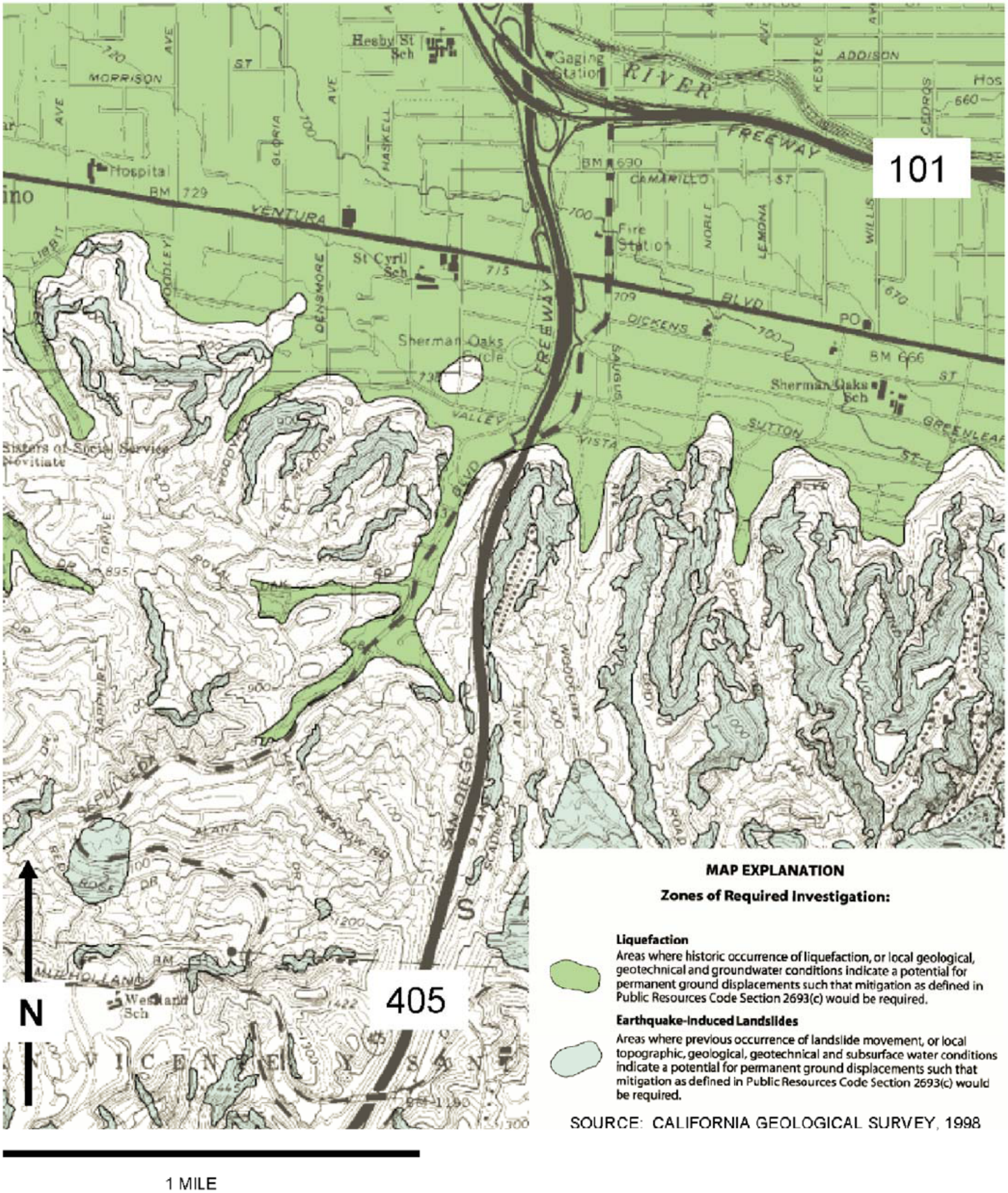
3.7.1 Liquefaction

Liquefaction is more likely in poorly-graded, saturated, low-density sands. With increasing overburden, density and increasing clay-content, the likelihood of liquefaction decreases. In regards to clay content, recent studies over the past ten years has demonstrated that clays with certain properties can be prone to liquefaction. Other factors affecting the potential of liquefaction include but not limited to the following:

- magnitude and proximity of the earthquake;
- duration of shaking; soil types;
- grain size distribution; clay fraction content; density;
- angularity;
- effective overburden;
- cyclic loading; and,
- soil stress history.

The potential for liquefaction is present along the project corridor where groundwater is present in the upper 50 feet in conjunction with loose sands in the upper 50 feet. The alluvium in the San Fernando Valley at the northern end of the corridor, i.e. north of the Sepulveda Boulevard under crossing is identified as have a potential for liquefaction (Figure 3-4). However, much of the corridor near the crest is excavated into bedrock and therefore does not have a liquefaction potential. The southern part of the corridor within the lower-lying terrain of the Sawtelle Plain, between about Santa Monica Boulevard and the national cemetery, is also identified as having a liquefaction potential (Figure 3-5). The southern boundary of this liquefaction zone is a straight line suggesting that it is controlled by a branch of the Santa Monica fault and that the fault forms a ground water barrier ponding shallow ground water on the upslope side (north) of the fault.

A more detailed discussion of liquefaction and seismically induced settlement is included in Section 5.2 of this report.



Earth Mechanics, Inc.
Geotechnical & Earthquake Engineering

SEISMIC HAZARD MAP
NORTHERN PROJECT AREA

Figure 3-4

SEPULVEDA BLVD. UC - BRIDGE NO. 53-3021S

Project No. 09-125 Date: 09-02-09

Earth Mechanics, Inc. Geotechnical & Earthquake Engineering	SEISMIC HAZARD MAP SOUTHERN PROJECT AREA		Figure 3-5 Page 21
SEPULVEDA BLVD. UC - BRIDGE NO. 53-3021S	Project No. 09-125	Date: 09-02-09	

3.7.2 Lateral Spreading

Lateral spread is the finite, lateral displacement of sloping ground (0.1 to < 6 percent) as a result of pore pressure buildup or liquefaction in a shallow, underlying soil deposit during an earthquake. Lateral spreading, as a result of liquefaction, occurs when a soil mass slides laterally on a liquefied layer, and gravitational and inertial forces cause the layer, and the overlying non-liquefied material, to move in a downslope direction. The magnitude of lateral spreading movements depends on earthquake magnitude, distance between the site and the seismic event, thickness of the liquefied layer, ground slope or ratio of free-face height to distance between the free face and structure, fines content, average particle size of the materials comprising the liquefied layer, and the standard penetration rates of the materials.

The potential for lateral spreading to impact the project corridor is low as the bridge sites are relatively flat and do not have a free face.

3.7.3 Fault-Related Ground Rupture

In general terms, an earthquake is caused when strain energy in rocks is suddenly released by movement along a plane of weakness. In some cases, fault movement propagates upward through the subsurface materials and causes displacement at the ground surface. Surface rupture usually occurs along traces of known or potentially active faults, although many historic events have occurred on faults not previously known to be active.

The California Geologic Survey (CGS) establishes criteria for faults as active, potentially active or inactive. Active faults are those that show evidence of surface displacement within the last 11,000 years (Holocene age). Potentially active faults are those that demonstrate displacement within the past 1.6 million years (Quaternary age). Faults showing no evidence of displacement within the last 1.6 million years may be considered inactive for most structures, except for critical or certain life structures. In 1972 the Alquist-Priolo Special Studies Zone Act (now known as the Alquist-Priolo Earthquake Fault Zone Act, 1994, or APEHA) was passed into law which requires studies within 500 feet of active or potentially active faults. The APEHA designs “active” and “potentially active” faults utilizing the same age criteria as that used by the CGS. However, the established policy is to zone active faults and only those potentially active faults that have a relatively high potential for ground rupture.

Although the Santa Monica fault and Charnock faults are identified on the Caltrans ground motions (Mualchin, 1996) as being seismically active (Figure 3-5), these faults are not identified as active Alquist-Priolo Earthquake Fault Zones by the California Geological Survey or by Los Angeles County (Figure 2). However, they are identified on the Los Angeles County fault rupture map as being potential active. These faults are discussed in more detail in the sections entitled “Structure” and in “Seismic Design Parameters”. The project corridor does not transverse any active faults as delineated by the APEHA. In addition, studies performed on the Santa Monica fault have not resulted in establishing ground rupture from faulting in the project corridor vicinity. Therefore, it is our professional opinion that the potential for surface ground rupture along the project corridor is negligible.

3.7.4 Potential for Ground Shaking

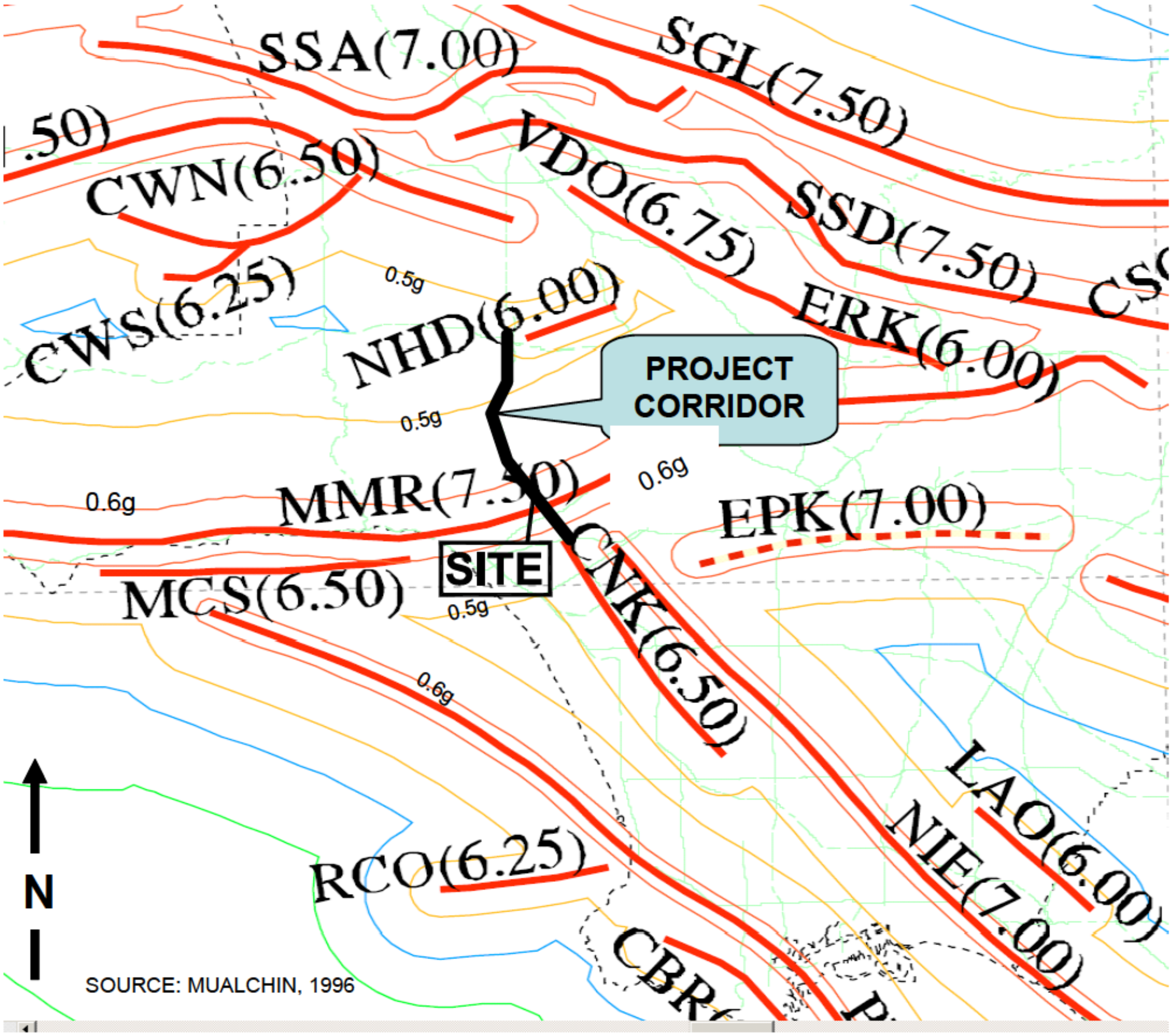
The energy released during an earthquake propagates from its rupture surface in the form of seismic waves. The resulting strong ground motion from the seismic wave propagation can cause significant damage to structures. At any location, the intensity of the ground motion is a function of the distance to the fault rupture, the local soil/bedrock conditions beneath the structure, and the earthquake magnitude. Intensity is usually greater in areas underlain by unconsolidated material than in areas underlain by more competent rock.

Earthquakes are characterized by a moment magnitude, which is quantitative measure of the strength of the earthquake based on strain energy released during the event. The magnitude is independent of the site, but is dependent on several factors including the type of fault, rock-type, and stored energy. Moderate to severe ground shaking will be experienced in the project area if a large magnitude earthquake occurs on one of the nearby principal late Quaternary faults and may cause structural damage to the on-site improvements. Project corridor improvements located in the alluvial areas of the project will sustain greater damage than those improvements located in the bedrock portions of the corridor.

3.7.5 Tsunamis

Tsunamis, or seismic sea waves, are large oceanic waves generated by earthquakes, submarine volcanic eruptions or large submarine landslides. They are capable of traveling long distances across ocean basins, and can force large quantities of water up onto shore at high velocities. The forces involved with tsunamis are of such large magnitude that the only positive means of protection is to avoid areas subject to tsunamis.

Due to the project corridor's elevation and distance to the ocean, the potential for tsunamis is considered negligible.



FAULT NAMES

CNK CHARNOCK
CWN CHATSWORTH NORTH
CWS CHATSWORTH SOUTH
EPK ELYSIAN PARK SEISMIC ZONE
ERK EAGLE ROCK
LAO LOS ALAMITOS
NHD NORTH HOLLYWOOD

MCS MALIBU COAST (OFFSHORE)
MMR MALIBU COAST-SANTA MONICA-HOLLYWOOD-RAYMOND
NIE NEWPORT INGLEWOOD
RCO REDONDO CANYON
SGL SAN GABRIEL
SSD SIERRA MADRE
VDO VERDUGO

Earth Mechanics, Inc. Geotechnical & Earthquake Engineering	CALTRANS GROUND MOTION CONTOUR MAP — Figure 3-6, Page 24
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4.0 SUBSURFACE CONDITIONS

4.1 SOIL CONDITIONS

Based on the recent field exploration and the as-built LOTB sheets in Appendix A, the subsurface materials at the site consist of very stiff to hard sandy lean clay, medium dense to dense silty and clayey sand with shale fragments, underlain by dense gravel (fragmented shale and schist) below El. +268 feet. The soil consistency generally increases with depth. The idealized soil profile and design strength parameters for foundation design are presented in Table 4-1.

Soil strength parameters in Table 4-1 are primarily based on published correlations with SPT blowcounts (Lam and Martin, 1986) and CPT soundings (Robertson and Campanella, 1983). Correlated blowcounts from CPT logs in Appendix A are generally in agreement with the design values in Table 4-1. A direct shear test is performed at El. +280 ft, which is classified as clay in the idealized soil profile. In our opinion, the strength values obtained using the SPT correlation are more reliable for sandy soils and should be used for foundation design because the laboratory test results are affected by soil disturbance during sampling.

4.2 GROUNDWATER CONDITIONS

Ground water is generally at shallow to moderate depths along the project corridor. The highest historical groundwater is partly documented by the California Geological Survey (CGS, 1997 and 1998b). The groundwater map of the Beverly Hills quadrangle (1998b) indicates shallow groundwater in the area between Santa Monica Boulevard and Wilshire Boulevard. The shallowest water level was about 25-30 feet between Sunset and Wilshire Boulevards. The depths increase abruptly on the south to more than 40 feet near the Santa Monica Freeway (I-10) and increase more gradually on the north to more than 40 feet about halfway between Wilshire and Sunset Boulevards.

Most of the I-405 corridor in Sepulveda Canyon through the Santa Monica Mountains is not known to have shallow ground water. However, the nature of the canyon with non-indurated young alluvial deposits filling the axis is such that it receives runoff from the adjacent steep slopes and during times of high precipitation may temporarily pond groundwater in low spots and pockets.

During our recent field investigation conducted in August 2009, groundwater was not encountered down to El. +230 feet, which is more than 90 feet below the freeway surface. As shown on the as-built LOTB sheets in Appendix A, groundwater was not encountered during drilling in 1954 down to El. +247 feet. However, during the June 2007 field investigation by Caltrans, groundwater was measured at El. +253.6 feet in Boring R-07-0008 on the west side of I-405 freeway. Groundwater was also measured at El. +250 feet in October 2002 in the borings for left-side widening of the adjacent Bridge No. 53-0710.

According to CGS (1998), the historical high groundwater contour crosses the bridge site at El. +290 feet. However, this CGS contour level is not consistent with the records of the nearby Los Angeles County Department of Public Works (LACPW) active monitoring well (Well No. 2546L). Therefore, we recommend the highest measured groundwater level of +253.6 feet to be used for the project.

TABLE 4-1. IDEALIZED SOIL PROFILE AND STRENGTH PARAMETERS

Approx. Elevation (ft)	Predominant Soil Type	Range of Measured SPT and Converted CPT Blowcounts; Design value (N) (blows/foot)	Total Unit Weight (pcf)	Friction Angle (degree)	Cohesion/ Undrained Shear Strength (psf)
Abutment 1, Bent 2, Bent 3, Bent 4, and Bent 5					
+310 to +289	Stiff Sandy Lean Clay (CL)	14 to 19 N = 12	110	-	1500
+289 to +270	Very stiff Lean Clay/Sandy Silt (CL/ML)	24 to 28 N = 20	115	-	2500
+270 to +265	Medium dense to dense Silty Sand (SM)	N = 30	120	36	-
+265 to +260	Very stiff Sandy Silty Clay (CL-ML)	N = 20	120	-	2500
+260 to +245	Dense Silty Sand w/ gravel (SM0	48 to 80 N = 40	120	38	-
+245 to +213	Very stiff to hard Lean Clay w/ Sand (CL)	22 to 90 N = 30	120	-	4000
+213 to +205	Very dense Silty Sand (SM)	N > 50	125	41	-
Bent 6 and Bent 7					
+335 to +315	Dense Clayey and Silty Sand (SC/SM) [Fill]	45 to 50/6” N = 40	125	38	-
+315 to +300	Stiff to very stiff Sandy Lean Clay (CL)	16 to 19 N = 15	110	-	2000
+300 to +295	Medium dense Silty Sand (SM)	N = 20	120	33	-
+295 to +290	Very stiff Silt (ML)	N = 20	120	-	2500
+290 to +278	Medium Dense Silty Sand and Sandy Silt (SM/ML)	N = 25	120	34	-
+275 to +268	Very stiff Sandy Silt and Sandy Lean Clay (ML/CL)	N = 25	120	-	3000
+268 to +250	Very dense Silty Sand w/ Gravel (SM)	N > 50	125	41	-

TABLE 4-1. IDEALIZED SOIL PROFILE AND STRENGTH PARAMETERS

Approx. Elevation (ft)	Predominant Soil Type	Range of Measured SPT and Converted CPT Blowcounts; Design value (N) (blows/foot)	Total Unit Weight (pcf)	Friction Angle (degree)	Cohesion/ Undrained Shear Strength (psf)
Bent 8 and Abutment 9					
+340 to +318	Dense Clayey Sand (SC) [Fill]	45 to 50/6” N = 40	125	38	-
+318 to +288	Very stiff to hard lean Clay with Sand (CL)	14 to 28 N = 20	110	-	2500
+288 to +283	Medium dense to dense Silty Sand w/ Gravel (SM)	N = 30	120	36	-
+283 to +279	Very stiff to hard lean Clay with Sand (CL)	N = 20	120	-	2500
+279 to +275	Medium dense to dense Silty Sand w/ Gravel (SM)	17 to 36 N = 30	125	36	-
+275 to +268	Medium dense Sand w/ Silt (SP-SM)	17 to 37 N = 20	125	33	-
+268 to +250	Very dense Gravel w/ Silt and Sand (GP)	N > 50	125	41	-

Notes:
(1) SPT = Standard Penetration Test.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 SEISMIC DESIGN CRITERIA

According to the 1996 Caltrans Seismic Hazard map, the most significant faults relative to the project area are listed in Table 5-1 along with their style of fault, maximum earthquake magnitude, distance to the bridge site and resulting peak bedrock acceleration (PBA).

TABLE 5-1. LOCAL SEISMIC SOURCES

Fault or Fault Zone	Style of Faulting	Maximum Credible Earthquake (MCE) Magnitude	Distance to Site[(1)] (miles)	Peak Bedrock Acceleration[(2)] (g)
Malibu Coast-Santa Monica-Hollywood-Raymond (MMR)	Reverse-Oblique[(1)]	7.5	0.3	0.8
Charnock (CNK)	Strike-Slip	6.5	2.0	0.5
Newport-Inglewood-Rose Canyon/E (NIE)	Strike-Slip	7.0	3.5	0.5

Notes:

(1) The distances of each bridge site to these seismic sources were scaled from the 1996 Caltrans Seismic Hazard Map.

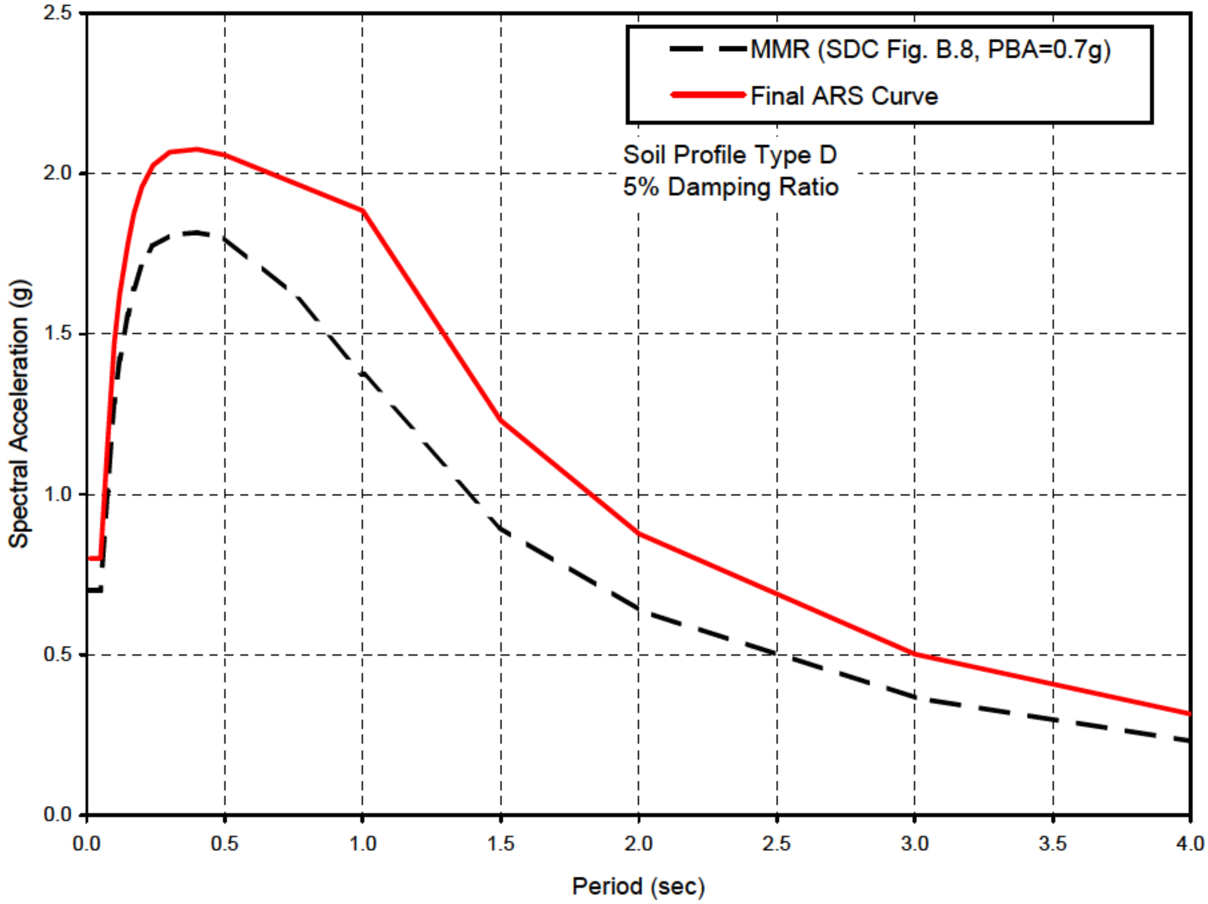
(2) The PBA is the larger of the two PBA's obtained from the attenuation relations of Sadigh (1997) and Mualchin (1996).

The ARS curves published in Figure B.8 of the Caltrans Seismic Design Criteria (SDC, 2006b) for MCE Magnitudes (M) of 7.25±0.25 and Soil Profile Type "D" are applicable. However, ARS curve for PBA's greater than 0.7g are not included in Figure B.8 of SDC. As a result, we generated an ARS curve for M=7.25±0.25 and a PBA of 0.8g by scaling coordinates of the 0.7-g curve in Figure B.8 with a scaling factor of 1.142 (0.8/0.7).

The design ARS curve must be modified to account for near-fault effects. For the near-fault effects, Caltrans Seismic Design Criteria (SDC, 2006b) Section 6.1.2.1 recommends the following modifications to the spectral accelerations:

- For periods less than 0.50 second, no change;
- For periods greater than 1.0 second, an increase of 20%;
- For periods between 0.50 and 1.0 second, a linear interpolation between the values at 0.50 and 1.0 second.

The resulting design ARS curve and the digitized coordinates are presented in Figure 5-1.



MMR (M = 7.5)
Peak Bedrock Acceleration (PBA)= 0.8 g
Soil Type D

Spectral Coordinates

Period (sec)	Acc. (g)
0.010	0.800
0.020	0.800
0.030	0.800
0.050	0.800
0.075	1.157
0.100	1.473
0.120	1.625
0.150	1.784
0.170	1.875
0.200	1.958

Period (sec)	Acc. (g)
0.240	2.026
0.300	2.067
0.400	2.076
0.500	2.058
0.750	1.971
1.000	1.884
1.500	1.231
2.000	0.878
3.000	0.502
4.000	0.316

5.2 LIQUEFACTION

The site is located in an area shown as potentially liquefiable on the Seismic Hazard Zones Map of the Beverly Hills Quadrangle (CGS, 1998). Liquefaction is a phenomenon whereby saturated granular soils lose their inherent shear strength due to increased pore water pressures, which may be induced by cyclic loading such as that caused by an earthquake. Low density granular soils, shallow groundwater, and long duration/high acceleration seismic shaking are some of the factors favorable to cause liquefaction. Liquefaction is generally considered possible when the depth to groundwater is less than about 50 feet below the ground surface.

Based on available as-built boring information and findings of our field investigation, the subject site has a low liquefaction potential during the maximum credible seismic event due to the absence of groundwater within the depths of interest.

5.3 SCOUR

The existing structure does not cross a channel or basin that conveys water; therefore, scour potential should not be a design issue.

5.4 SOIL CORROSIVITY

Eight soil samples from our site investigation Borings R-09-14, R-09-15 and R-09-016 were tested for pH, minimum resistivity, soluble chloride content and soluble sulfate content. Caltrans field investigation in 2007 did not include any borings for the subject bridge.

The test results are summarized in Table 5-2. Minimum resistivities were between 730 and 3000 ohm-cm. The pH values were between 6.5 and 8.1. The soluble sulfate measurements were between 30 and 3700 parts per million (ppm), and the soluble chloride measurements were between 144 and 419 ppm.

According to the Caltrans Corrosion Guidelines (2003), soils are considered corrosive if the pH is 5.5 or less, or the chloride concentration is 500 ppm or greater, or the sulfate concentration is 2,000 ppm or greater. Based on the test results and the Caltrans criteria, the fill material tested at 10 feet depth in R-09-16 is corrosive. The test results are consistent with conclusions of the Caltrans Preliminary Foundation Report (PFR) for the subject bridge (Caltrans, 2008a). The Caltrans PFR reported that corrosion test results on borings drilled for the adjacent Bridge No. 53-3022K (proposed) indicated a non-corrosive environment; however, results of retaining wall borings drilled on top of I-405 embankment indicated that existing fill material should be considered corrosive.

Based on the findings of the corrosion tests, corrosion mitigation is required in accordance with Bridge Design Specifications (2004), Article 8.22 when reinforced concrete is in direct contact with the existing fill. In addition, sacrificial corrosion allowance is required per Caltrans' Corrosion Guidelines (2003), Section 10.1 when steel is in direct contact with the existing fill.

TABLE 5-2. SOIL CORROSION TEST RESULTS

Boring	Station (Offset) / "Station Line"	Sample Depth (ft)	Soil Type	Minimum Resistivity (ohm-cm)	pH	Soluble Sulfate Content (ppm)	Soluble Chloride Content (ppm)
R-07-0005	1668+67 (128' RT) / "RTE 405 C/L"	0-50	NA	2500	7.37	NA	NA
R-07-0005		50-100	NA	1400	7.68	NA	NA
R-09-014		20	CL	730	6.97	170	419
R-09-014		35	ML	3000	7.8	50	163
R-09-015		15	SM	1100	7.44	250	308
R-09-015		25-40	SC	1200	7.49	120	205
R-09-016		10	SC	820	6.5	3700	185
R-09-016		20	CL	850	7.4	580	322
R-09-016		40	CL	1100	7.6	30	416
R-09-016		50	ML	2700	8.1	30	144

5.5 PILE FOUNDATION DESIGN

5.5.1 Foundation Type

Based on our preliminary assessment, liquefaction does not appear to be a project design issue because of the anticipated deep groundwater levels. No faults are known to exist within the project site; accordingly, the possibility of surface rupture of the site due to faulting is low. Although the site could be subject to significant ground shaking in the event of a major earthquake, particularly for seismic event originated from the nearby Santa Monica fault zone, this hazard is common to southern California. Possible damage caused by the shaking and unsaturated sand settlement is expected to be low at the project site.

Due to the project site's seismicity, we anticipate high vertical and lateral load demand on the bridge foundations. Shallow foundations are not considered a suitable foundation type for the new bridge structure because of the presence of fine-grained soil at shallow depths. We recommend a deep foundation system to support the new bridge structure. Downdrag under seismic loading condition is not a design issue for deep foundations since the seismically induced settlement is expected to be negligible at the project site.

After evaluating various viable options, driven precast concrete piles (PCC) appear to be a better solution than cast-in-drilled-hole (CIDH) piles due to the following reasons: 1) possibility of using battered PCC piles to resist large lateral loads from tall cantilever abutments, and 2) possibility of encountering caving soils during drilling CIDH piles cannot be precluded at the subject site. PCC piles are also more economical for this site in comparison to steel H-piles. As a result, we recommend the use of driven PCC piles for the project.

Considering commonly available PCC pile types and load demands, we recommend using Caltrans Standard Class 200 Alternative ‘X’ PCC piles. Based on the findings of our field exploration and previous subsurface data, we do not anticipate drivability issues for driven PCC piles before reaching the anticipated pile tip elevations. As proposed bottom of abutments are below street grade, the deep foundations are anticipated to be founded into native soils, and consequently, no corrosion protection is required.

5.5.2 Foundation Data Provided by Structural Designers

Per Caltrans policy, the Working Stress Design (WSD) is used for abutment piles and Load and Resistance Factor Design (LRFD) is used for bent piles. The foundation design data sheet and foundation loads were provided by the structural designers following the latest Caltrans Memo to Designers (Caltrans, 2008b), and are shown in Table 5-3 and Table 5-4, respectively.

TABLE 5-3. FOUNDATION DESIGN DATA SHEET

Location	Design Method	Pile Type	Finished Grade El. (ft)	Pile Cut-off El. (ft)	Pile Cap Size (ft)		Permissible Settlement under Service Load (inch)	Number of Piles per Support
					B	L		
Abutment 1	WSD	14” PCC	303.45	300.45	15	43	1”	28
Bent 2	LFD	14” PCC	300.74	294.74	22	29	1”	30
Bent 3	LFD	14” PCC	304.98	298.98	22	29	1”	30
Bent 4	LFD	14” PCC	304.84	298.84	22	29	1”	30
Bent 5	LFD	14” PCC	305.61	299.61	22	29	1”	30
Bent 6	LFD	14” PCC	311.29	305.29	34	34	1”	36
Bent 7	LFD	14” PCC	313.77	307.77	22	24	1”	30
Bent 8	LFD	14” PCC	338.86	332.86	22	29	1”	30
Abutment 9	WSD	14” PCC	338.76	335.76	15	27	1”	18

TABLE 5-4. FOUNDATION DESIGN LOADS

Support No.	Service-I Limit State (kips)			Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)			
	Total Load		Perm-anent Loads	Compression		Tension		Compression		Tension	
	Per Support	Max. Per Pile	Per Support	Per Support	Max. Per Pile	Per Support	Max. Per Pile	Per Support	Max. Per Pile	Per Support	Max. Per Pile
Abutment 1	2887	135	1308	3934	197	NA	NA	1308	400	NA	NA
Bent 2	3199	188	2260	4295	261	NA	NA	2086	369	NA	196
Bent 3	2461	171	1962	3341	238	NA	NA	1388	326	NA	210
Bent 4	3886	198	3172	5194	273	NA	NA	2598	400	NA	183
Bent 5	4439	220	3713	5920	291	NA	NA	3139	395	NA	186
Bent 6	4265	205	3144	5728	232	NA	NA	2570	360	NA	189
Bent 7	3346	163	2907	4397	197	NA	NA	2333	384	NA	190
Bent 8	3118	226	2789	4276	221	NA	NA	2215	377	NA	193
Abutment 9	1891	148	942	2458	212	NA	NA	942	400	NA	NA

5.5.3 Axial Capacity

The abutments and bents foundations design recommendations are presented in Table 5-5 and Table 5-6, respectively. The Pile Data Table for the contract plans is presented in Table 5-7. The Class 200 Alt 'X' PCC pile is designed based on the pile design computer software APile (Ensoft, 2004a). Specifically, we used Nordlund's method and α-Method outlined in Federal Highway Administration (FHWA) Publications, FHWA-HI-97-013 among APile's analytical options to compute skin friction and end-bearing resistances in cohesionless and cohesive soils, respectively.

Pile group effects based on the layout provided by the structural engineers and the guidelines published in the AASHTO LRFD Bridge Design Specifications (2007) were included in these results.

TABLE 5-5. ABUTMENT FOUNDATIONS DESIGN RECOMMENDATIONS

Support	Pile Type	Cut-Off Elev. (feet)	LRFD Service-I Limit State Load per Support (kips)		LRFD Service-I Limit State Total Load per Pile (kips)	Nominal Resistance (kips)	Design Tip Elev. (feet)[1]	Specified Tip Elev. (feet)[2]	Nominal Driving Resistance Required (kips)
			Total	Perm-anent					
Abut. 1	Caltrans Standard Class 200 Alt. 'X'	300.45	2887	1308	135	400	+256 (a) +286 (c) +266 (d)	+256	400
Abut. 9		335.76	1891	942	148	400	+270 (a) +321 (c) +288 (d)	+270	400

Notes:

1. Design tip elevation is controlled by the following demands: (a) Compression, (c) Lateral Load and (d) Settlement. Design tip elevations for Tension (b) do not govern at Abutments 1 and 2.
2. The specified tip elevation shall not be raised above the design tip elevations for cases (c) and (d).

Support	Pile Type	Cut-off El. (ft)	Service-I Limit State Load per Support (kips)	Total Perm-issible Support Settle-ment (in)	Required Factored Nominal Resistance (kips)				Design Tip El. (ft)	Specified Tip El. (ft)
					Strength Limit		Extreme Event			
					Comp. (ϕ=0.7)	Tension (ϕ=0.7)	Comp. (ϕ=1)	Tension (ϕ=1)		
Bent 2	Caltrans Standard Class 200 Alt. 'X'	294.74	3199	1	380	0	400	200	+257 (a-I) +256 (a-II) +260 (b-II) +286 (c) +266 (d)	+256
Bent 3		298.98	2461	1	340	0	400	210	+260 (a-I) +256 (a-II) +258 (b-II) +280 (c) +266 (d)	+256
Bent 4		298.84	3886	1	390	0	400	200	+256 (a-I) +256 (a-II) +260 (b-II) +284 (c) +266 (d)	+256
Bent 5		299.61	4439	1	420	0	400	200	+254 (a-I) +256 (a-II) +260 (b-II) +284 (c) +266 (d)	+254
Bent 6		305.29	4265	1	340	0	400	200	+269 (a-I) +268 (a-II) +264 (b-II) +290 (c) +278 (d)	+264
Bent 7		307.77	3346	1	290	0	400	200	+270 (a-I) +268 (a-II) +264 (b-II) +293 (c) +278 (d)	+264
Bent 8		332.86	3118	1	320	0	400	200	+281 (a-I) +270 (a-II) +282 (b-II) +318 (c) +288 (d)	+270

Notes:
1. Design tip elevation is controlled by the following demands: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (b-II) Tension (Extreme Event), (c) Lateral Load, and (d) Settlement.
2. The specified tip elevation shall not be raised above the design tip elevations for cases (b), (c) and (d).

TABLE 5-7. PILE DATA TABLE

Location	Pile Type	Nominal Resistance (kips)		Design Tip El. (ft)[1]	Specified Tip El. (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abutment 1	Caltrans Standard Class 200 Alt. 'X'	400	N/A	+256 (a) +286 (c) +266 (d)	+256	400
Bent 2		400	200	+256 (a) +260 (b) +286 (c) +266 (d)	+256	400
Bent 3		400	210	+256 (a) +258 (b) +280 (c) +266 (d)	+256	400
Bent 4		400	200	+256 (a) +260 (b) +284 (c) +266 (d)	+256	400
Bent 5		420	200	+254 (a) +260 (b) +284 (c) +266 (d)	+254	420
Bent 6		400	200	+268 (a) +264 (b) +290 (c) +278 (d)	+264	400
Bent 7		400	200	+268 (a) +264 (b) +293 (c) +278 (d)	+264	400
Bent 8		400	200	+270 (a) +282 (b) +318 (c) +288 (d)	+270	400
Abutment 9		400	N/A	+270 (a) +321 (c) +288 (d)	+270	400

Notes:

1. Design tip elevations for Abutments are controlled by: (a) Compression, (c) Lateral Load and (d) Settlement. Design tip elevations for tension do not govern at Abutments 1 and 2.
2. Design tip elevations for Bents are controlled by: (a) Compression, (b) Tension, (c) Lateral Load and (d) Settlement.

5.5.4 Lateral Resistance

Lateral load analyses for piles were performed using LPile computer program (Ensoft, 2004b). Results of lateral pile analysis in terms of pile-head shear and lateral deflection for a free-head condition are presented in Table 5-8. The maximum bending moment and the location of maximum moment are also presented. Lateral capacity analyses include a Group Efficiency Factor (GEF) based on the pile layouts shown on the structural plans.

The solutions presented in Table 5-8 are entirely based on soil resistance and linear pile properties. Therefore, these values may be limited by the flexural strength (plastic moment) of the piles and other connection details. Linear interpolation can be used for solutions between pile-head deflections of 0.25 and 2 inches.

TABLE 5-8. LATERAL PILE SOLUTIONS

Location	Lateral Displacement at Top of Pile (in)	Lateral Load at Top of Pile (kips)	Maximum Moment (kip-in)	Depth from Pile Head to Max. Moment (ft)
Abutment 1 Longitudinal and Transverse Loading (GEF = 0.81)	¼	11.6	354	4.4
	½	16.3	579	4.8
	1	22.7	948	5.2
	2	31.3	1,560	6
Bents 2, 3, 4, 5 Longitudinal and Transverse Loading (GEF = 0.74)	¼	12.7	372	4.4
	½	17.9	619	4.8
	1	25.1	1,036	5.6
	2	35.2	1,746	6
Bent 6 Longitudinal and Transverse Loading (GEF = 0.91)	¼	18.5	449	3.6
	½	26.3	747	4
	1	38.2	1,315	4.8
	2	56.0	2,369	5.2
Bent 7 Longitudinal and Transverse Loading (GEF = 0.74)	¼	15.8	408	4
	½	22.5	689	4.4
	1	32.9	1,231	5.2
	2	48.3	2,207	5.6
Bent 8 Longitudinal and Transverse Loading (GEF = 0.74)	¼	20.0	465	3.5
	½	29.1	839	4
	1	39.6	1,449	4.5
	2	51.7	2,412	5
Abutment 1 Longitudinal and Transverse Loading (GEF = 0.84)	¼	14.6	410	4
	½	21.0	739	4
	1	28.7	1,279	5
	2	38.0	2,150	5.5

5.6 EMBANKMENTS

5.6.1 Settlement

A 15-foot high approach fill will be constructed at Abutment 1 of the new bridge. Settlement due to this approach fill was estimated using Hough's Method. Settlement calculations are shown in Appendix C. Based on these calculations maximum estimated settlement is approximately 3.5 inch. Settlement is expected to be negligible at other support locations. Because of the absence of shallow groundwater, most of the estimated settlement will be due to immediate settlement of subsurface soil and is expected to be completed during construction.

5.6.2 Slope Stability

Global stability analyses were conducted for both static and pseudostatic conditions at the bridge abutments. Computer program Slide 5.0 (Rocscience, 2007). Results of this analysis are presented in Appendix C. The factor of safety for a deep-seated failure is greater than 1.5 under static condition for the abutments with a 2-foot soil surcharge to represent traffic loading. Slope stability analysis under pseudostatic condition was performed using a seismic coefficient equal to 0.2g (which is the smaller of either one-third the horizontal peak ground acceleration or 0.2g) in accordance with guidelines provided in Section 3.12 of the Caltrans Guidelines for Foundation Investigations and Reports (Caltrans, 2006a). Analysis indicates that the factor of safety is greater than 1.1 under pseudostatic condition.

5.7 LATERAL EARTH PRESSURE

5.7.1 Active Lateral Earth Pressures

If retaining walls are free to move laterally at the top, a static active lateral earth pressure of 36 pounds per square foot (psf) per foot is recommended. If lateral movement at the top of retaining walls is restrained, a static at-rest earth pressure of 55 psf per foot is recommended. A uniform lateral pressure of at least 72 psf due to vehicle loads, equivalent to a vertical pressure produced by 2 feet of earth, should be added to these lateral earth pressures. Other design requirements are specified in Section 3.20 of the Caltrans Bridge Design Specifications (2000).

Seismic lateral active soil pressure can be estimated using the Mononobe-Okabe equation with a one-third of the Peak Bedrock Acceleration of 0.8g as recommended in Section 5.2.2.3 of Caltrans Bridge Design Specifications (2004). As walls are expected to rotate during the design MCE event, an invert triangular soil pressure of 22H psf per foot at top (zero at bottom) is recommended (where H is the wall height in feet) to be used with the recommended static active lateral earth pressure.

5.7.2 Passive Resistance of Abutment Backfill

Under seismic loading, an ultimate passive earth pressure determined following the procedure outlined in Section 7.8.1 of the Caltrans SDC (2006b) may be used for abutment back walls acting against the approach backfill.

6.0 CONSTRUCTION RECOMMENDATIONS

6.1 EARTHWORK

Earthwork should be performed in accordance with Caltrans Standard Specifications, Section 19 (Caltrans, 2006c). Appropriate measures should be taken to prevent damage to adjacent structures and utilities. Any design and construction of temporary sloping, sheeting, or shoring should be made the contractor's responsibility. Based on the data interpreted from the borings, design of temporary slopes and benches may assume a Cal/OSHA Soil Type B. It should be noted that it is the responsibility of the contractor to oversee the safety of the workers in the field during construction. The contractor shall conform to all applicable occupational and health standards, rules, regulations, and orders established by the State of California. In addition, other State, County, or Municipal regulations may supersede the recommendations presented in this section. If a trench shoring design and safety plan is required, the geotechnical consultant should review the plan to confirm that recommendations presented in this report have been applied to the design.

Heavy construction equipment should not be used within 5 feet to shoring or open excavation due to large lateral pressures induced by such equipment unless the shoring or excavation is designed to accommodate resulting pressures. Appropriate measures should be taken to prevent damage to adjacent existing structures and utilities. Excavated soil or construction materials should not be stockpiled adjacent to shoring or open excavations. Stockpiled soil and construction materials should be set back a distance at least equal to the height of the excavation.

6.2 GROUNDWATER CONTROL

During the recent field investigation conducted in August 2009, groundwater was not encountered down to El. +230 feet which is more than 90 feet from the freeway surface. As shown on the as-built LOTB sheets in Appendix A, groundwater was not encountered during drilling in 1954 down to El. +247 feet. However, during the June 2007 field investigation by Caltrans, groundwater was measured at El. +253.6 feet in Boring R-07-0008. Groundwater was also measured at El. +250 feet in October 2002 in the borings for adjacent Bridge No. 53-0710 left-side widening. Therefore, groundwater is not expected to be encountered during footing construction. However, groundwater level can fluctuate due to seasonal rainfall amount, local irrigation and groundwater recharge program and other man-made conditions. Should groundwater is encountered, it should be controlled in accordance with Section 19-3.04 of the Caltrans Standard Specifications (2006c).

Free water should not be allowed to stand in any excavations. If excavations become flooded, at least the bottom 6 inches of soil should be removed and recompacted to 95% relative compaction. Additional removals may be required at the discretion of the project geotechnical personnel.

6.3 DRIVEN PILE CONSTRUCTION

1. Piles should be driven at least to the specified tip elevation and the bearing value should be checked with the pile-driving formula given in Section 49-1.08 of the Caltrans Standard Specifications (2006c) using the nominal driving resistance or with a pile data analyzer (PDA). However, if the specified tip elevation is reached without achieving the design load,

pile driving should continue until bearing is attained. In this case, it may be prudent to allow the pile to "set up" before continuing the driving.

2. The selected pile-driving hammer such as diesel-type hammers should be able to deliver sufficient energy to drive the piles at a penetration rate of not less than 1/8 inch per blow at the required bearing value. Vibratory hammers and undersized predrilling below the embankment fill are not allowed for pile installation.

3. Pile locations and battered angles should be selected with large margin to avoid potential conflict with the existing piles. Removing existing piles could be problematic due to light reinforcement and limited axial capacity of Raymond piles in tension. The as-built location of the existing piles shall be confirmed in the field before pile driving because the actual position of the piles could be different from the as-built drawings. Contractor should be prepared for conditions arising from interference between existing and new piles.

4. Drivability of piles was considered for the bridge site. Based on the available soil boring data, hard driving may first be encountered at the bearing stratum at about El. +290 to +285 feet. However, to ensure a proper execution during construction, the geotechnical engineer should review the driving equipment and method proposed by the contractor.

5. The proposed Caltrans standard Class 200 concrete piles at the Bent 8 should be predrilled through the embankment fill to elevation +318 feet as the fill is greater than 5 feet thick. The predrilling should be in accordance with Caltrans Standard Specifications 49-1.06.

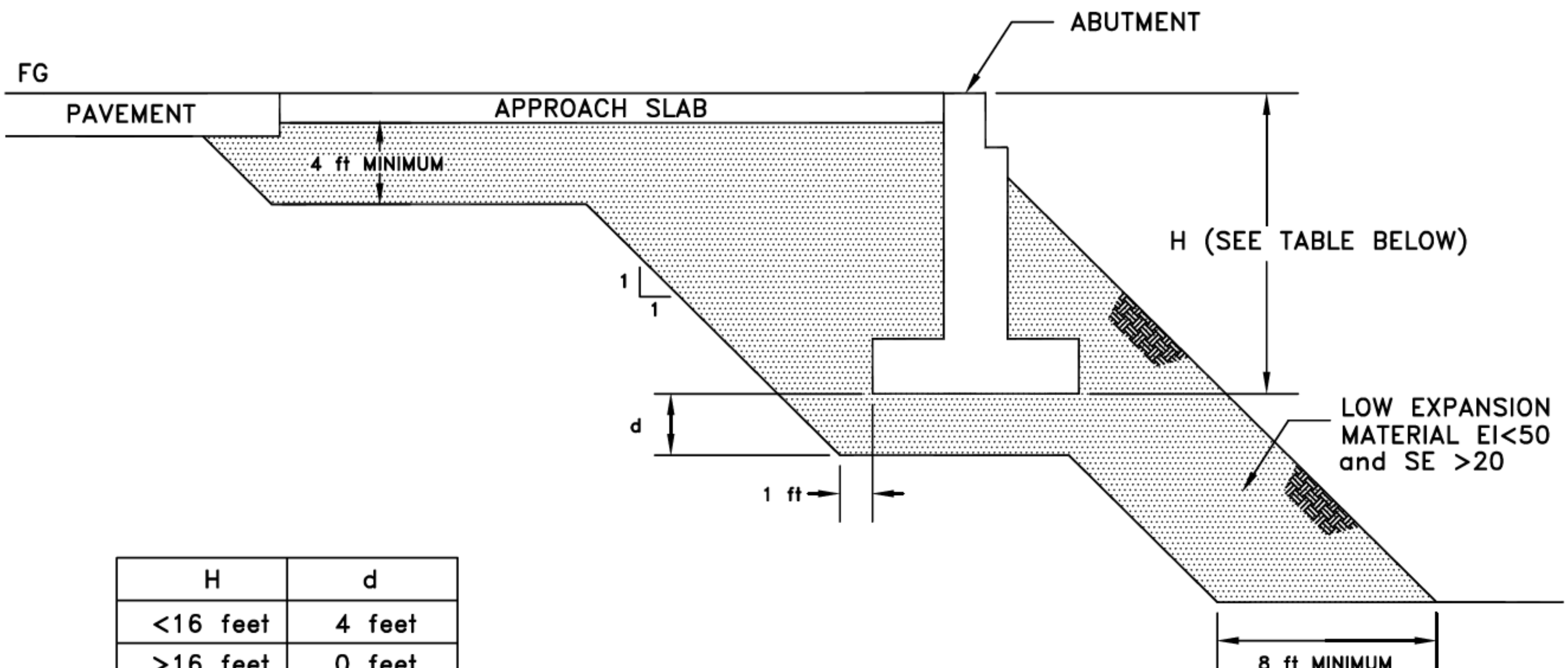
6. Due to the presence of a dense stratum above the specified pile tip, the concrete piles at Abutment 9 can be predrilled to an elevation of +318 feet to facilitate pile driving. The predrilling at the abutment, if desired, should meet the requirements of Caltrans Standard Specifications 49-1.05.

6.4 BACKDRAIN AND BACKFILL REQUIREMENTS FOR ABUTMENT WALLS

Per Caltrans requirements, expansive soils should not be placed as part of the embankment within the limits of a bridge abutment as shown in Figure 6-1. Materials placed behind abutment wall should be low-expansive soil with an Expansion Index (EI) less than 50 and Sand Equivalent (SE) of more than 20. The low-expansive material requirement should be supplemental to the abutment structure and pervious backfill requirement as described in Caltrans Standard Plans (2006d) and Caltrans Standard Specifications (2006c) under Sections 19-3.06 and 19-3.065, respectively.

Backfill should be compacted in accordance with Section 19-5 of the Caltrans Standard Specifications (2006c). Backfill should be placed in loose lifts not exceeding 8 inches in thickness, moisture-conditioned to near optimum moisture content, and compacted to at least 95 percent relative compaction. The relative compaction should be based on the maximum density determined by California Test 216. Jetting or flooding to compact backfill is not recommended. Heavy compaction equipment, such as vibratory rollers, dozers, or loaders, should not be used adjacent to the abutment walls in order to avoid damaging the walls due to large lateral earth pressures.

Backdrains should be installed behind abutment walls to relieve hydrostatic pressure. Backdrains should be constructed in accordance with Bridge Detail 3-1 on Sheet BO-3 per Caltrans Standard Plans (2006d) or the geocomposite drain alternative per Section 6 of the Caltrans Bridge Design Aids (1992b).



H	d
<16 feet	4 feet
>16 feet	0 feet

EXPANSION INDEX TO BE DETERMINED BY ASTM D4829
SAND EQUIVALENT TO BE DETERMINED
BY CALIFORNIA TEST METHOD 217

NO SCALE

Earth Mechanics, Inc. Geotechnical and Earthquake Engineering	SEPULVEDA BLVD. UC - BRIDGE NO. 53-3021S		LOW EXPANSION MATERIAL IN BRIDGE EMBANKMENT
	EMI Project No. 09-125	Date: 11-16-09	FIGURE 6-1

6.5 REVIEW OF CONSTRUCTION PLANS

Recommendations contained in this report are based on preliminary plans. The geotechnical consultant should review the final construction plans and specifications in order to confirm that the general intent of the recommendations contained in this report have been incorporated into the final construction documents. Recommendations contained in this report may require modification or additional recommendations may be necessary based on the final design.

6.6 GEOTECHNICAL OBSERVATION AND TESTING

It is recommended that inspections and testing be performed by the geotechnical consultant during the following stages of construction:

- Grading operations, including excavations and placement of compacted fill
- Footing excavations
- Pile installation
- Backdrain installation and backfilling of bridge abutment walls.
- Removal or installation of support of buried utilities or structures
- When any unusual subsurface conditions are encountered

7.0 LIMITATIONS

This report is intended for the use of HNTB, LACMTA and Caltrans for the proposed Sepulveda Boulevard Undercrossing (UC) of the Eastbound Wilshire Boulevard On-Ramp to Northbound I-405. This report is based on the project as described and the information obtained from the exploratory borings at the approximate locations indicated on the attached plans. The findings and recommendations contained in this report are based on the results of the field investigation, laboratory tests, and engineering analyses. In addition, soils and subsurface conditions encountered in the exploratory borings are presumed to be representative of the project site. However, subsurface conditions and characteristics of soils between exploratory borings can vary. The findings reflect an interpretation of the direct evidence obtained. The recommendations presented in this report are based on the assumption that an appropriate level of quality control and quality assurance (inspections and tests) will be provided during construction. EMI should be notified of any pertinent changes in the project plans or if subsurface conditions are found to vary from those described herein. Such changes or variations may require a re-evaluation of the recommendations contained in this report.

The data, opinions, and recommendations contained in this report are applicable to the specific design element(s) and location(s) which is (are) the subject of this report. They have no applicability to any other design elements or to any other locations and any and all subsequent users accept any and all liability resulting from any use or reuse of the data, opinions, and recommendations without the prior written consent of EMI.

EMI has no responsibility for construction means, methods, techniques, sequences, or procedures; for safety precautions or programs in connection with the construction; for the acts or omissions of the CONTRACTOR or any other person performing any of the construction; or for the failure of any worker to carry out the construction in accordance with the Final Construction Drawings and Specifications.

Services performed by EMI have been conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty or guarantee is included or intended.

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CCI

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310-373-0159 (ph) / 310-373-0179 (fax)

June 14, 2012

Mr. Dan Lewis
Kiewit Infrastructure West Company
1200 South Sepulveda Boulevard
Los Angeles, California 90025

RE: Air Monitoring Report
I-405 Sepulveda Pass Widening Project
GSA Lot
Los Angeles, California

Dear Mr. Lewis;

CCI is pleased to present to Kiewit Infrastructure West Company (Kiewit), this report documenting the Air Monitoring activities conducted at the GSA Lot located adjacent to the east side of Sepulveda Boulevard and to the south of Wilshire Boulevard in Los Angeles, Los Angeles County, California (Property) (refer to Figure 1).

Air Monitoring Activities

On June 13, 2012, CCI collected air monitoring data on the Property during various construction activities. The air monitoring was conducted using a Thermo MIE Personal DataRam PDR 1000 (PDR 1000) and a RAE Systems Q-RAE Plus 4-Gas Meter (4-Gas Meter). The PDR 1000 is a direct-read personal aerosol monitor which measures concentrations of dust, smoke, mists, and fumes in real time. The direct-read measurements are detected in micrograms per cubic meter ($\mu g/m^3$). The 4-Gas Meter is a direct-read device which measures concentrations of oxygen, combustible gas, carbon monoxide, and hydrogen sulfide. The gas of concern for this project was carbon monoxide (CO).

Air monitoring data was collected from multiple locations on the Property throughout the day and recorded on field data sheets. The locations included upwind of work zones, adjacent to work zones, and downwind of work zones. Please refer to Figure 2 for the air monitoring locations.

<u>Drilling Operation 01 (D01)</u>

D01 was located towards the south corner of the Property. Air monitoring locations included upwind of the work zone (UW01), adjacent to the work zone (D01), and downwind of the work zone (DW01). Visual observations did not observe significant dust or equipment exhaust being generated in this area. Air monitoring results did not detect significant dust or equipment exhaust being generated in this area.

Drilling Operation 02 (D02)
D01 was located near the center of the Property. Air monitoring locations included upwind of the work zone (UW02), adjacent to the work zone (D02), and downwind of the work zone (DW02). Visual observations did not observe significant dust or equipment exhaust being generated in this area. Air monitoring results did not detect significant dust or equipment exhaust being generated in this area.

Pile Driving Operation
Pile driving operations began at approximately 1300 hours. The location was towards the north-northwest end of the Property near the northbound I-405 off-ramp to East Wilshire Boulevard. Wind speed was moderate and was intermittently to the east and northeast. A United States Government building is located downwind of the pile driving operation. Air monitoring locations included upwind of the work zone (UW03), and several downwind locations (DW03 through DW06).

Visual observation did not observe significant dust being generated during the pile driving operations. However, the pile driving operation produces exhaust during each strike of the pile driving hammer. The exhaust appeared to dissipate downwind of the work zone. Air monitoring results did not detect elevated concentrations of dust or CO at the downwind air monitoring locations during the pile driving operations.

Dust Sweeper
CCI observed one dust sweeper vehicle operating on the Property during construction activities. In several instances, CCI observed significant dust being generated by the vehicle when sweeping the road. It did not appear that an appropriate level of water suppression was being employed during the sweeping activities. In addition, significant volumes of dust were observed appearing to come out of the top and/or sides of the vehicle. The dust would then be blown into the parking area of the United States Government building adjacent to the east of the Property.

Recommendations
Based on the results of the air monitoring activities, CCI recommends that increased water suppression efforts are employed by the dust sweeper vehicle to minimize the volume of dust being generated during the sweeping activities.

Limitations

In today's technology, no amount of assessment can ascertain that the Property is completely free of environmental concern. This assessment is not intended to be all inclusive, identify all potential concerns, or wholly eliminate the possibility of the Property having environmental risks. It is possible that variations in unpermitted, undocumented, or concealed improvements or alterations to the Property could exist beyond what was found during this assessment. Future changes in observed conditions on the Property could occur due to variations in environmental and physical conditions. It should be noted that these air monitoring activities were not conducted in order to comply with any South Coast Air Quality Management District (SCAQMD) regulations or requirements.

If you have any questions or concerns regarding the soil sampling activities document in this report, please call us at (310) 373-0159.

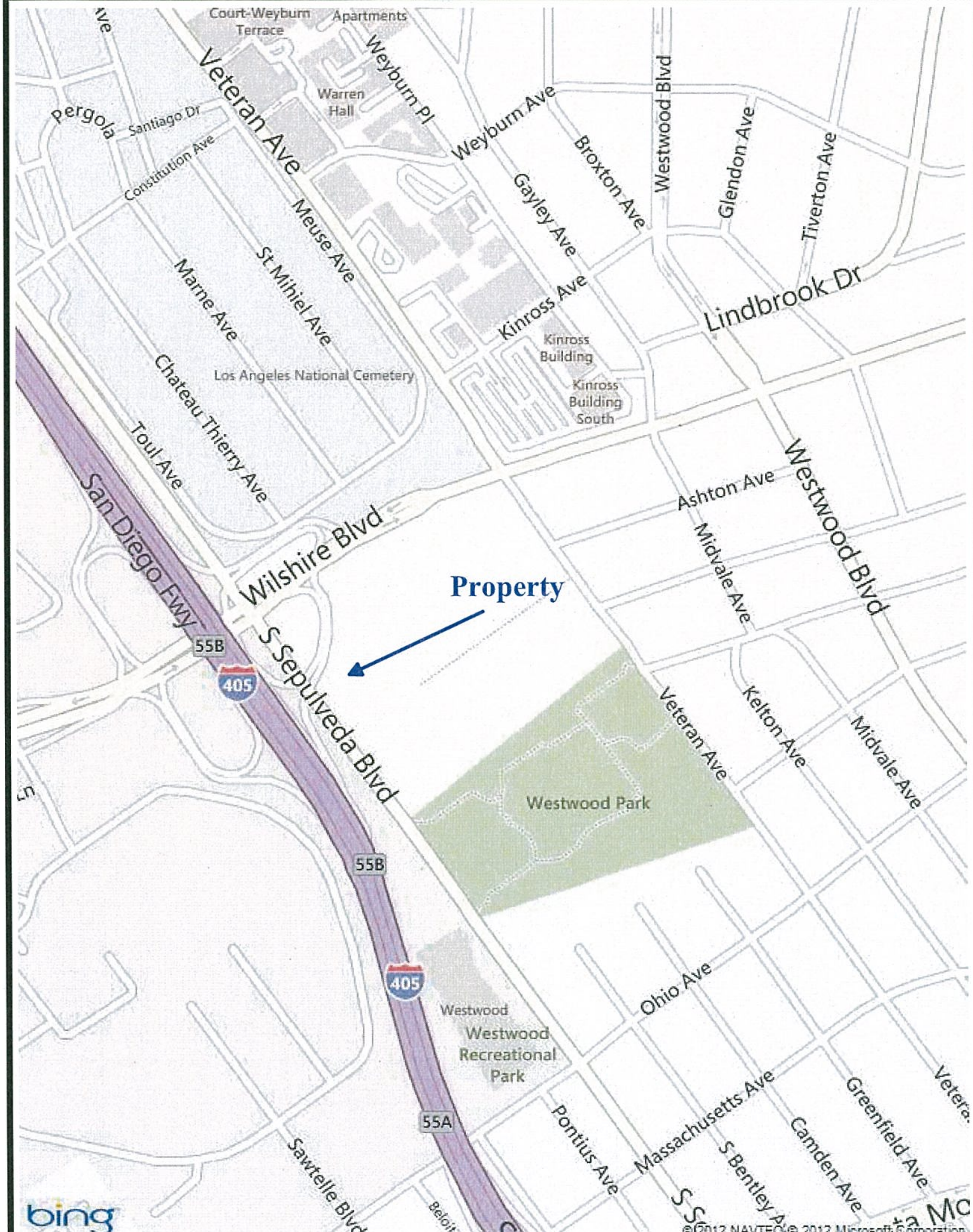
Sincerely,
CCI

(b) (6) [redacted]

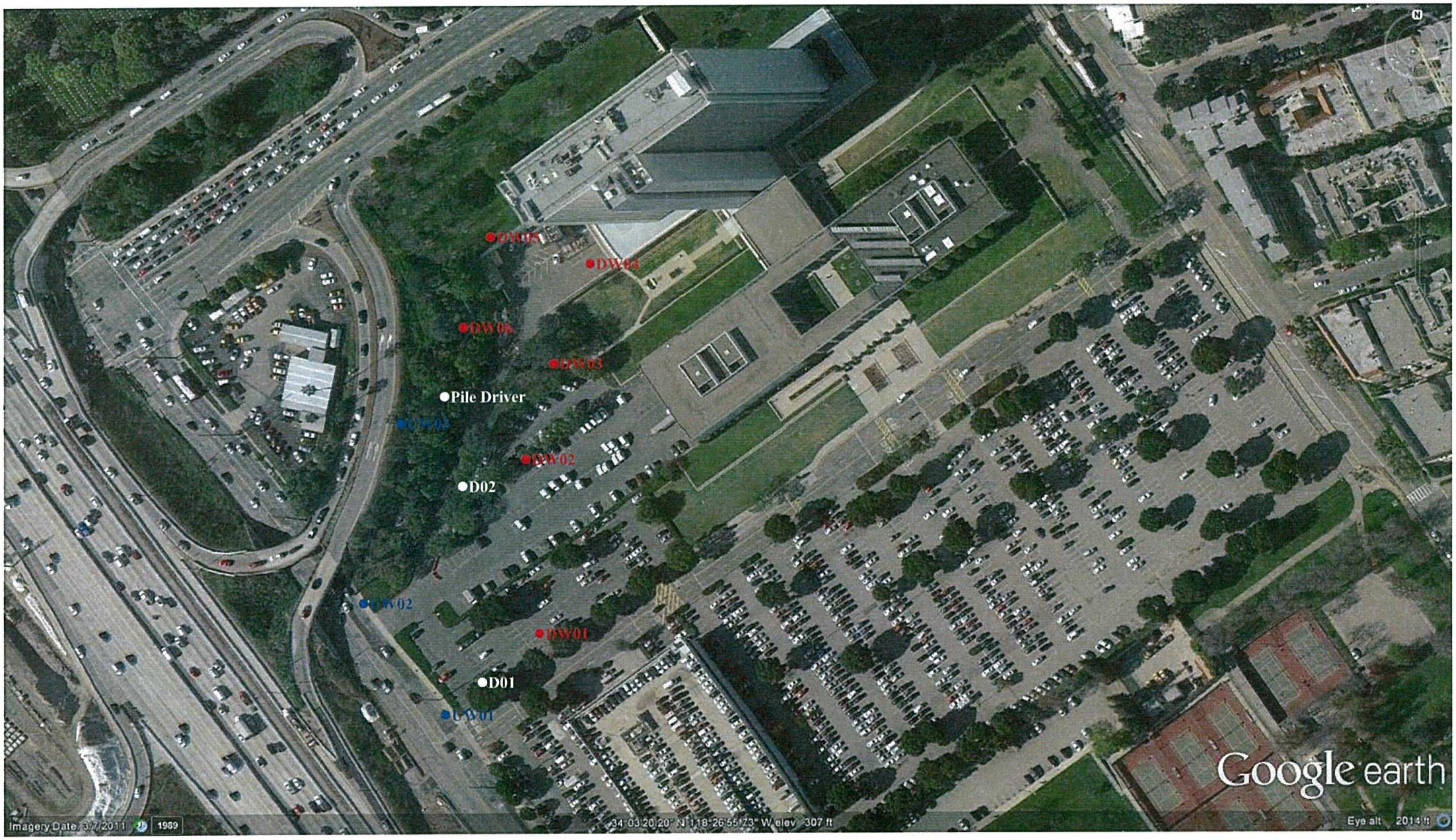
David A. Jonas
Project Manager

ATTACHMENTS
ATTACHMENT A - FIGURES
ATTACHMENT B - AIR MONITORING LOG FORMS

ATTACHMENT A - FIGURES



CCI	Kiewit Infrastructure West Co. GSA Lot Los Angeles, California CCI Project No. CC1635-1	Map Taken From: Microsoft 2012 N	PROPERTY LOCATION MAP	FIGURE 1



UW indicates an upwind monitoring location
D indicates a work zone monitoring location
DW indicates a downwind monitoring location

CCI	**AIR MONITORING LOCATIONS**	Kiewit Infrastructure West Co. GSA Lot Los Angeles, California CCI Project No. CC1635-1	Map Courtesy of: Google Earth, 2012 N	**FIGURE** **2**

ATTACHMENT B - AIR MONITORING LOG FORMS

Air Monitoring Log Form

Project Name: GSA

Project Location: Sepulveda & Wilshire

Project Date: 6-13-2012

Equipment: PDR1000 & Q RAE 4-Gas

	Date	Operator	Instrument	Reading	Units	Type	Location
0845	6/13/12	D. Jones	PDR 1000	0.075	mg/m3	Direct	UW01
			4-Gas	Ø CO	ppm	Direct	UW01
			PDR 1000	0.116			UW02
			4-Gas	Ø CO			UW02
			PDR 1000	0.081			D01
			4-Gas	Ø CO			D01
			PDR 1000	0.067			DW01
			4-Gas	Ø CO			DW01
			PDR 1000	0.111			D02
			4-Gas	Ø CO			D02
			PDR-1000	0.073			DW02
			4-Gas	Ø CO			DW02
0900	6/13/12	D. Jones	PDR 1000	0.071	mg/m3	Direct	UW01
			4-Gas	Ø CO	mg/m3	Direct	UW01
			PDR 1000	0.059			UW02
			4-Gas	Ø CO			UW02
			PDR 1000	0.066			D01
			4-Gas	Ø CO			D01

Air Monitoring Log Form

Project Name: GSA

Project Location: Sepulveda & Wilshire

Project Date: 6/13/2012

Equipment: PDR1000 & QRAE 4-Gas

	Date	Operator	Instrument	Reading	Units	Type	Location
0900	6/13/12	D. Jones	PDR1000	0.053	mg/m3	Direct	DW01
			4-Gas	Ø CO	ppm	Direct	DW01
			PDR1000	0.056			D02
			4-Gas	Ø CO			D02
			PDR1000	0.059			DW02
			4-Gas	Ø CO			DW02
0930	6/13/12	D. Jones	PDR1000	0.082			UW01
			4-Gas	Ø CO			UW01
			PDR1000	0.051			D01
			4-Gas	Ø CO			D01
			PDR1000	0.062			DW01
			4-Gas	Ø CO			DW01
			PDR 1000	0.059			UW02
			4-Gas	Ø CO			UW02
			PDR1000	0.178			D02
			4-Gas	Ø CO			D02
			PDR 1000	0.052			DW02
			4-Gas	Ø CO			DW02

Air Monitoring Log Form

Project Name: GSA

Project Location: Sepulveda & Wilshire

Project Date: 6/13/2012

Equipment: PDR1000 & QRAE 4-Gas

	Date	Operator	Instrument	Reading	Units	Type	Location	
1000	6/13/12	D. Jones	PDR1000	0.064	mg/m3	Direct	UW01	
			4-Gas	Ø CO	ppm	Direct		
			PDR 1000	0.264			UW02	Sweeper
			4-Gas	Ø CO				
			PDR 1000	0.812			D01	
			4-Gas	Ø CO				
			PDR 1000	0.152			DW01	
			4-Gas	Ø CO				
			PDR1000	0.050			D02	
			4-Gas	Ø CO				
			PDR1000	0.045			DW02	
			4-Gas	Ø CO				
1030	6/13/12	D. Jones	PDR 1000	0.059	mg/m3	Direct	UW01	
			4-Gas	Ø CO	ppm	Direct		
			PDR 1000	0.078			UW02	
			4-Gas	Ø CO				
			PDR 1000	0.052			D01	
			4-Gas	Ø CO				

Page 3 of 8

Air Monitoring Log Form

Project Name: GSA

Project Location: Sepulveda + Wilshire

Project Date: 6/13/2012

Equipment: PDR1000 + QRAE 4-Gas

	Date	Operator	Instrument	Reading	Units	Type	Location
1030	6/13/12	D. Jones	PDR1000	0.053	mg/m3	Direct	DW01
			4-Gas	Ø CO	ppm	Direct	
			PDR1000	0.074			D02
			4-Gas	Ø CO			
			PDR1000	0.064			DW02
			4-Gas	Ø CO			
1100	6/13/12	D. Jones	PDR1000	0.049	mg/m3	Direct	UW01
			4-Gas	1 CO	ppm	Direct	
			PDR1000	0.050			UW02
			4-Gas	Ø CO			
			PDR1000	0.052			D01
			4-Gas	Ø CO			
			PDR1000	0.047			DW01
			4-Gas	Ø CO			
			PDR1000	0.060			D02
			4-Gas	Ø CO			
			PDR1000	0.045			DW02
			4-Gas	Ø CO			

Air Monitoring Log Form

Project Name: GSA

Project Location: Sepulveda & Wilshire

Project Date: 6/13/2012

Equipment: PDR1000 & QRAE 4-Gas

	Date	Operator	Instrument	Reading	Units	Type	Location
1130	6/13/12	D. Jones	PDR1000	0.050	mg/m3	Direct	UW01
			4-Gas	Ø co	ppm	Direct	
			PDR 1000	0.044			UW02
			4-Gas	Ø co			
			PDR 1000	0.041			D01
			4-Gas	Ø co			
			PDR 1000	0.051			DW01
			4-Gas	Ø co			
			PDR 1000	0.037			D02
			4-Gas	Ø co			
			PDR 1000	0.019			DW02
			4-Gas	Ø co			
			PDR1000	0.035			DW03
			4-Gas	Ø co			
1200	6/13/12	D. Jones	PDR1000	0.031			UW01
			4-Gas	Ø co			
			PDR 1000	0.046			UW02
			4-Gas	Ø co			

Page 5 of 8

Air Monitoring Log Form

Project Name: GSA

Project Location: Sepulveda + Wilshire

Project Date: 6/13/2012

Equipment: PDR1000 + QRAE 4 Gas Meter

	Date	Operator	Instrument	Reading	Units	Type	Location
1200	6/13/12	D. Jones	PDR1000	0.100	mg/m3	Direct	D01
			4 Gas	Ø CO	ppm	Direct	
			PDR 1000	0.049			DW01
			4-Gas	Ø CO			
			PDR1000	0.038			D02
			4-Gas	Ø CO			
			PDR 1000	0.025			DW02
			4-Gas	Ø CO			
1230	6/13/12	D. Jones	PDR 1000	0.027	mg/m3	Direct	UW03
			4-Gas	~~0.049~~	ppm	Direct	
			PDR1000	0.049			DW03
			4-Gas	Ø CO			
1300	6/13/12	D. Jones	PDR1000	0.035	mg/m3	Direct	UW03 Driving Post 1
			4. Gas	Ø CO	ppm	Direct	
			PDR1000	0.159			DW03
			4-Gas	Ø CO			
1315			PDR1000	0.750			DW06
			4-Gas	Ø CO			

Page 6 of 8

Air Monitoring Log Form

Project Name: GSA

Project Location: Sepulveda & Wilshire

Project Date: 6/13/2012

Equipment: PDR1000 & QRAE 4-Gas Meter

	Date	Operator	Instrument	Reading	Units	Type	Location
1315	6/13/12	D. Jones	PDR1000	0.081	mg/m3	Direct	DW005
			4-Gas	Ø CO	ppm	Direct	DW05
1320			PDR 1000	0.075			DW004
			4-Gas	Ø CO			
1335			PDR 1000	0.030			DW003
			4-Gas	Ø CO			
			PDR 1000	0.052			DW04
			4-Gas	Ø CO			
1345			PDR 1000	0.057			DW05
			4-Gas	Ø CO			
			PDR 1000	0.092			DW06
1400			4-Gas	Ø CO			
	6/13/12	D. Jones	PDR 1000	0.054			UW03
			4-Gas	Ø CO			
1410			PDR 1000	0.067			DW003
			4-Gas	Ø CO			
			PDR 1000	0.049			DW04
			4-Gas	Ø CO			

Air Monitoring Log Form

Project Name: GSA

Project Location: Sepulveda & Wilshire

Project Date: 6/13/2012

Equipment: PDR 1000 + QRAE 4-Gas

	Date	Operator	Instrument	Reading	Units	Type	Location
1410	6/13/12	D. Jones	PDR 1000	0.054	ug/m3	Direct	DW005
			4-Gas	Ø CO	ppm	Direct	
1415			PDR 1000	0.102			DW006
			4-Gas	Ø CO			
1425			PDR 1000	0.038			DW004
			4-Gas	Ø CO			
1430			PDR 1000	0.042			DW003
			4-Gas	Ø CO			

Page 8 of 8

July 18, 2011

Kiewit Infrastructure West
6060 Center Drive, Suite 200
Los Angeles, California 90045

Attention: Jeremy Bock

Re: Air Monitoring Services – GSA Facility
I-405 Sepulveda Pass Expansion Project

Dear Mr. Bock:

1 INTRODUCTION

Coffey Environments was requested by Kiewit Infrastructure West to perform baseline air monitoring for dust and volatile organic compounds (VOCs) to establish ambient background levels prior to start of excavation activities planned for the area. The subject area is located in the northwestern corner of the GSA Facility property at 11000 Wilshire Boulevard, Los Angeles California.

2 AIR MONITORING

On July 12, 2011, Coffey Environments performed air monitoring for dust and VOCs during an 8-hour work day between 7AM and 3PM. A Davis Vantage Pro2 weather station was also setup onsite to collect and log meteorological data. All air monitoring results were the product of background, or ambient influences; no construction activities were observed within the subject site perimeter.

2.1 Dust Monitoring

Dust monitoring was performed in general accordance with South Coast Air Quality Management District (SCAQMD) Rule 403 requirements. Portable dust monitors (MIE Personal DataRAM PDR-1000) were placed at four locations around the subject site perimeter and at one location interior to the perimeter. The dust levels, measured in milligrams per cubic meter (mg/m^3) for particles less than 10 microns in diameter, were recorded automatically by each monitor, and by hand every 15 minutes. Following completion of the monitoring event, the data was downloaded into a database and tabulated.

2.2 VOC Monitoring

VOC monitoring was performed in tandem with the dust monitoring. A photo-ionization detector (PID) calibrated to 50 parts per million (ppm) hexane was utilized to observe VOC concentrations at each of the four site perimeter locations and one interior location. PID measurements were taken continuously throughout the day, with the readings recorded once every 30 minutes.

3 MONITORING RESULTS

A summary of the ambient background air monitoring results for the subject site is presented in Table 1 (attached).

4 DISCUSSION

As indicated in the monitoring results table, ambient background dust levels ranged from 0.008 to 0.063 mg/ m^3. All VOC readings observed for the subject site were 0.0 parts per million (ppm). The highest dust concentration was observed from the northern boundary, while the lowest dust concentration was observed from the eastern boundary. The prominent wind direction was from the west-northwest.

5 CONCLUSION

SCAQMD Rule 403 requires fugitive dust emissions from construction sites to be below 0.05 mg/ m^3 for particles less than 10 microns in diameter. To show compliance with the regulatory requirements, Rule 403 allows downwind fugitive dust emission data to be reduced by upwind or ambient influences. The data obtained during this investigation was collected in accordance with SCAQMD Rule 403 and may be utilized as ambient dust levels for the purpose of Rule 403 reporting.

6 ASSUMPTIONS AND LIMITATIONS

This report was prepared exclusively for use by Kiewit Infrastructure West, and may not be relied upon by any other person or entity without Coffey Environments' express written permission. The information, conclusions and recommendations described in this report apply to conditions existing at certain locations when services were performed and are intended only for the specific purposes, locations, time frames and project parameters indicated. Coffey Environments cannot be responsible for the impact of any changes in environmental standards, practices or regulations after performance of services.

In performing our professional services, we have applied present engineering and scientific judgment and used a level of effort consistent with the current standard of practice for similar types of studies.

As applicable, Coffey Environments has relied in good faith upon representations and information furnished by individuals with respect to operations and existing property conditions, to the extent that they have not been contradicted by data obtained from other sources. Accordingly, Coffey Environments accepts no responsibility for any deficiencies, omissions, misrepresentations, or fraudulent acts of persons interviewed.

Coffey Environments will not accept any liability for loss, injury claim, or damage arising directly or indirectly from any use or reliance on this report. Coffey Environments makes no warranty, expressed or implied

This report is issued with the understanding that the client, the property owner, or its representative is responsible for ensuring that the information, conclusions, and recommendations contained herein are brought to the attention of the appropriate regulatory agencies, as required.

For and on behalf of Coffey Environments

(b) (6) [redacted]

(b) (6) [redacted]

Jonathan Barkman, REA
Project Manager

Steve Ridenour, PG
Associate Geologist

Attachments: Table 1
Site Layout Map

TABLE 1
Air Monitoring Results

Time	North Fence	South Fence	East Fence	West Fence	Work Area	Wind Direction	Avg. Wind Speed	Max Wind Speed	PID
	Dust Concentration mg/m^3						mph		ppm
0700	0.048	0.038	0.033	0.04	0.041	---	0	0	0.0
0715	0.046	0.038	0.031	0.042	0.044	---	0	0	---
0730	0.053	0.038	0.031	0.039	0.043	NNW	2	5	0.0
0745	0.049	0.038	0.033	0.041	0.043	W	2	5	---
0800	0.048	0.037	0.036	0.043	0.043	WNW	2	6	0.0
0815	0.063	0.042	0.033	0.045	0.043	WNW	1	5	---
0830	0.054	0.038	0.03	0.045	0.048	W	1	4	0.0
0845	0.047	0.032	0.027	0.038	0.05	W	2	6	---
0900	0.044	0.033	0.026	0.034	0.044	W	2	5	0.0
0915	0.046	0.028	0.025	0.033	0.046	SW	1	5	---
0930	0.045	0.028	0.025	0.033	0.044	NW	1	6	0.0
0945	0.042	0.028	0.022	0.029	0.045	W	2	7	---
1000	0.053	0.025	0.021	0.03	0.045	WNW	1	6	0.0
1015	0.042	0.023	0.019	0.027	0.041	W	4	8	---
1030	0.051	0.022	0.019	0.033	0.041	W	3	8	0.0
1045	0.045	0.022	0.016	0.023	0.042	W	3	8	---
1100	0.038	0.02	0.016	0.02	0.041	WSW	3	8	0.0
1115	0.046	0.02	0.017	0.021	0.041	W	4	10	---
1130	0.046	0.021	0.015	0.019	0.038	W	5	10	0.0
1145	0.035	0.02	0.013	0.02	0.04	W	4	10	---
1200	0.036	0.028	0.013	0.018	0.042	W	4	9	0.0
1215	0.035	0.018	0.012	0.019	0.039	W	4	9	---
1230	0.043	0.019	0.012	0.021	0.038	W	5	13	0.0
1245	0.036	0.02	0.012	0.017	0.039	W	6	11	---
1300	0.035	0.017	0.011	0.017	0.038	W	6	12	0.0
1315	0.035	0.016	0.01	0.016	0.038	WNW	6	12	---
1330	0.035	0.018	0.008	0.016	0.039	WNW	5	10	0.0
1345	0.046	0.018	0.011	0.015	0.037	WNW	6	11	---
1400	0.032	0.018	0.01	0.014	0.036	WNW	6	11	0.0
1415	0.046	0.021	0.011	0.016	0.034	NW	7	11	---
1430	0.036	0.02	0.011	0.015	0.036	NW	7	12	0.0
1445	0.04	0.017	0.011	0.015	0.035	NW	7	13	---
1500	0.039	0.017	0.011	0.033	0.036	WNW	7	11	0.0

coffey environments SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE

Sheet 1 of 1

coffey environments
SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE

Project Name Kzuxt - GSA Bldg.

Project No./Task No. 111-0363

Calculated by [redacted] Date 7/12/11

Scale NTS.

Checked by ______ Date ______

(b) (7)(F)

[redacted]

MORGNER
Construction Management

I-405 SEPULVEDA PASS WIDENING PROJECT

PRE-CONSTRUCTION SURVEY REPORT

11000 Wilshire Blvd.
Los Angeles, CA 90024

Submitted to:
KIEWIT PACIFIC INC.

15260 Ventura Blvd., Ste. 1080
Sherman Oaks, CA 91403
Phone: (818) 461-8100
Fax: (818) 461-8111
www.morgnerco.com

MORGNER
Construction Management
Construction Management - Transportation Engineering - Preconstruction Surveys

15260 Ventura Boulevard, Suite 1080
Sherman Oaks, CA 91403
Tel: 818-461-8100 Fax: 818-461-8111
www.morgnerco.com

PRE-CONSTRUCTION SURVEY REPORT

1/21/2011

Dan Kulka
Kiewit Pacific Construction
6060 Center Drive, Suite 200
Los Angeles, CA 90045

RE: I-405 SEPULVEDA PASS WIDENING PROJECT – CO882

Dear Mr. Kulka:

In response to your authorization, dated October 21, 2009 to perform a pre-construction survey in order to observe and document the condition of the subject property prior to the commencement of your contiguous construction activities on the I 405 Sepulveda Pass Widening Project, we are submitting the attached report.

The subject property, 11000 Whilshire Blvd., is a government building concrete/steel framed structure of 1,245,435 square feet and built in unknown year, on a level lot.

Access to the above mentioned property was denied, therefore **0 observations were made as to the condition of the property**.

The survey and report were prepared under the supervision of the undersigned. The observations and documentation adequately describe, and are sufficient to allow re-establishment, the condition of the property on 1/10/2011.

No opinions or conclusions regarding the property have been rendered or implied.

We have established technologies and security regulations and procedures to protect the data that is under our control. Information is stored on our network servers that employ commonly accepted security procedures. We protect this data from unauthorized access, usage, modification, and accidental loss.

Respectfully submitted,

(b) (6) [redacted]

Andrew D'Alfonso

TABLE OF CONTENTS

SECTION I

PROPERTY DESCRIPTION

Property Owner:	US Department of State - Federal Building
Mailing Address:	11000 Whilshire Blvd., Los Angeles CA 90024
Site Address:	11000 Whilshire Blvd., Los Angeles CA 90024
Assessor's Parcel #:	4324-017-903

The subject property is a government building concrete/steel framed structure of 1245435 square feet and built in unknown, on a level lot.

Property Photos

OBSERVATION LEGEND

For each observation, MORGNER inspectors have filled out a form indicating location, material, observation, severity, size and a photo identification number.

A) Location – For each building, a schematic of the plan of each floor were drawn by MORGNER inspectors. The rooms on each floor were labeled with numbers and the walls inside each room were also designated. In some cases, the location may be designated as TO (through out).

B) Material – The building material where the observations were made is identified as concrete, stucco, wood, masonry, drywall or others as observed.

C) Observation – The observations are identified as cracks, stains, peeling, spalling, etc., as the case may be.

D) Severity – The severity of the displacement observed is identified as high (1/8”- over), medium (1/16”-1/8”) and low (0-1/16”).

E) Size – The size of the observation is shown as linear feet or square feet of the affected area, or units of the particular item specified.

F) Photo Number – MORGNER has established a photo record of all observations, and the applicable photo numbers are indicated on the form.

G) Comments – the inspector may provide comments on any pertinent information.

H) Floors are defined as:
(0) For basement
(1) For level accessed by front door at street level
(2) For next floor above level 1 and additional floor numbers will follow in this sequence

BUILDING FLOOR PLAN

NO ACCESS / NO RESPONSE REPORT.

BUILDING ACCESS AUTHORIZATION

MORGNER
Construction Management
Construction Management - Transportation Engineering - Preconstruction Surveys
15260 Ventura Boulevard, Suite 1080
Sherman Oaks, CA 91403
Tel: 818-461-8100 Fax: 818-461-8111
www.morgnerco.com

INSPECTION ACCESS CONSENT FORM

Re: Parcel No. 4324-017-903
Address: 11000 Wilshire Blvd. Los Angeles, CA 90024

Dear

By signing this form, you confirm receipt of the 405 Freeway Widening Project Notification Letter and this consent form, and you understand that Morgner Construction Management will provide the pre-construction and/or photo condition survey as explained in the attached Notification Letter.

We have established technologies and security regulations and procedures to protect the data that is under our control. Information is stored on our network servers that employ commonly accepted security procedures. We protect this data from unauthorized access, usage, modification, and accidental loss.

Please complete the following, sign and retain for the day of your inspection. Once you are ready to schedule an appointment, please contact Carla or Claudia at 818.461.8100.

Thank you very much.

<u>We highly recommend the homeowner and/or site representative be present during the inspection.</u>

NO ACCESS / NO RESPONSE

PROPERTY OWNER'S NAME (print)	SITE REPRESENTATIVE'S NAME (print)
PROPERTY OWNER'S SIGNATURE	SITE REPRESENTATIVE'S SIGNATURE
DATE	DATE
PHONE NUMBER	PHONE NUMBER

☐ Please check here if you do not want to have your property surveyed, sign and return to our offices at your earliest convenience.

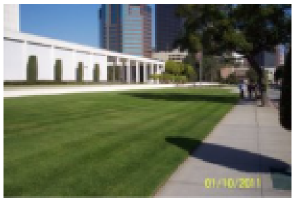
Declined Signature Name Date

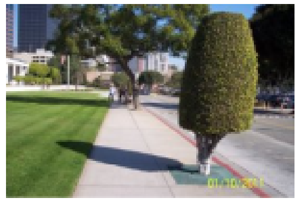
SECTION II

General Building Comments:

NO ACCESS / NO RESPONSE REPORT.


5493.JPG


5494.JPG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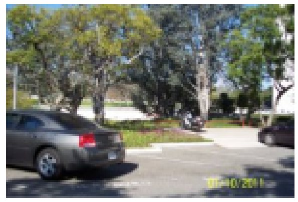
5496.JPG


5497.JPG


5498.JPG


5499.JPG


5500.JPG

Kiewit

I-405 Sepulveda Pass Widening Project

Sign in Sheet

GSA Weekly Meeting

Wednesday, 5/21/14 11AM - 12PM

Name:

(b) (6)

Name:	
HEATHER NIELSEN	[redacted]
KENN HALLQUIST	
JOHN DRURY	
STEVEN [illegible]	
Shannon Buell	
MICHAEL P. SPENCER	
Ian Powell	
Ken Conder	
Andrew Ballwell	
Kayvan Mahramzadeh	
LAURA KAROLY (KIEWIT)	

Kiewit
Infrastructure Group

I-405 SEPULVEDA PASS WIDENING PROJECT

DATE: 1/30/2013 TIME: 11:00AM -12PM

MEETING: GSA COORDINATION MEETING.

TOPICS:
1. Safety:
2. Quality:
3. Compliance:

LOCATION: FACILITATOR(S):

Print Name:

KATHERINE LEE	(b) (6) [redacted]
ALVIN TROTTER	
Shawn McCoy	
Ric Swanson	
BOB DOSS	
Dave Clow MEC	
MUHAMMAD SHAFIQ	
BRIAN MAR	
dana macfarlane	
REBECCA MARTINEZ	REMOTE.

"An Equal Employment /Affirmative Action Employer"

Kiewit
Infrastructure Group

I-405 SEPULVEDA PASS WIDENING PROJECT

DATE: 1/16/2013 **TIME:** 11:00 AM – 12:00 PM

MEETING: GSA COORDINATION MEETING.

TOPICS:

1. **Safety:**
2. **Quality:**
3. **Compliance:**

DESIGN 405 BUILD

LOCATION: GSA BLDNG. **FACILITATOR(S):** KATHERINE LEE.

Print Name:

KATHERINE LEE - KIEWIT	(b) (6) [redacted]
Bob Doss	
Dave Clow - MEC	
Ken Morin - MEC	
REBECCA MARTINEZ	REMOTE.
Shawn McCoy	(b) (6) [redacted]
MUHAMMAD SHAFIQ	

"An Equal Employment /Affirmative Action Employer"

Kiewit

Sign-In Sheet

DESIGN 405 BUILD

Date: JAN 9, 2013

Meeting: GSA COORDINATION MEETING

	Name	(b) (6) [redacted]	Company
1.)	KATHERINE LEE		KIEWIT.
2.)	BOB DOSS		GSA
3.)	Bayram Kurbanov		Kiewit
4.)	Dave Clow		MEC
5.)	Shawn McCoy		GSA
6.)	Ric Swanson		FBI
7.)	TERRY MARTINEZ		MTA
8.)	Jana Macfarlane		gsa
9.)	MUHAMMAD SHAFIQ		KIEWIT.
10.)			
11.)			
12.)			
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24.)			
25.)			
26.)			

Kiewit
Infrastructure Group

I-405 SEPULVEDA PASS WIDENING PROJECT

DATE: 12/19/12 TIME: 11AM.-12PM

MEETING: GSA COORDINATION MTG.

TOPICS:
1. Safety:
2. Quality:
3. Compliance:

LOCATION: FACILITATOR(S):

Print Name:	Signature
ALVIN TROTTER	REMOTE.
BOB Ross	[redacted]
Shawn McCoy	
Bayram Kurbanov	
TERRY MARTINEZ	
MUHAMMAD SHAFIQ	
Dave Clow MEC	
KATHERINE LEE	
Ric Swanson	
REBECCA MARTINEZ	REMOTE.

Kiewit

DESIGN 405 BUILD

Sign-In Sheet

Date: 12/12/2012

Meeting: GSA COORDINATION MEETING.

(b) (6)

	Name	Signature	Company
1.)	KATHERINE LEE [redacted]	[redacted]	KIEWIT
2.)	TYSON BURK	REMOTE	KIEWIT.
3.)	LEWIS SANTANGELO	REMOTE.	VERIZON.
4.)	ALVIN TROTTER	REMOTE	MTA.
5.)	Bob Ross	(b) (6) [redacted]	GSA
6.)	BRUCE HENE	[redacted]	KIEWIT
7.)	Andrew Bullwell [redacted]	[redacted]	HNTB
8.)	Jerry Martinez	[redacted]	MTA
9.)	MUHAMMAD SHAF [redacted]	[redacted]	KIEWIT
10.)	REBECCA MARTINEZ	REMOTE	KIEWIT.
11.)			
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25.)			
26.)			

Kiewit

Sign-In Sheet

DESIGN 405 BUILD

Date: 12/5/2012.

Meeting: GSA COORDINATION MEETING MINUTES.

	Name	Signature	Company
1.)	TIM BOWE	REMOTE	MEC
2.)	TYSON BURK	REMOTE	KIEWIT
3.)	ALVIN TROTTER	REMOTE.	MTA
4.)	REBECCA MARTINEZ	REMOTE	GSA.
5.)	KATHERINE LEE	(b) (6) [redacted]	KIEWIT
6.)	Bob Doss		GSA
7.)	dana macfarla		GSA
8.)	Ric Swanson		FBI
9.)	Dave Clow		MEC
10.)	Bayram Kurbanov		KPC
11.)			
12.)			
13.)			
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Kiewit

Sign-In Sheet

DESIGN 405 BUILD

Date: 11/28/2012

Meeting: GSA COORDINATION MEETING

	Name	[redacted]	Company
1.)	KATHERINE LEE	[redacted]	KIEWIT
2.)	Bob Doss	[redacted]	GSA
3.)	Ric Swanton	[redacted]	FBI
4.)	BRUCE HENSE	[redacted]	KIEWIT
5.)	MUHAMMAD SHAFIQ	[redacted]	KIEWIT
6.)	ALVIN TROTTER	REMOTE	MTA
7.)	REBECCA MARTINEZ	REMOTE	GSA
8.)	Dana MacFarlane	REMOTE	GSA
9.)	TYSON BURK	[redacted]	KIEWIT
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Kiewit

Sign-In Sheet

DESIGN 405 BUILD

Date: 10/24/12

Meeting: GSA COORDINATION MEETING.

	Name	(b) (6) [redacted]ature	Company
1.)	KATHERINE LEE	[redacted]	KIEWIT
2.)	ALVIN TROTTER	[redacted] REMOTE	
3.)	REBECCA MARTINEZ	REMOTE.	
4.)	Bayram Kurbanov	(b) (6) [redacted]	Kiewit
5.)	MUHAMMAD SHAFEEQ	(b) (6) [redacted]	KIEWIT
6.)	Kenneth Moran	(b) (6) [redacted]	MEC
7.)	Ric Swanson	(b) (6) [redacted]	FBI
8.)	Shawn McCoy	(b) (6) [redacted]	GSA
9.)	Dana MacFarlane	(b) (6) [redacted]	GSA
10.)	BRUCE HEIDE	(b) (6) [redacted]	KIEWIT
11.)	Bob Doss	(b) (6) [redacted]	GSA
12.)	BRIAN STILLEY	REMOTE.	GSA.
13.)	Andrew Ballard	(b) (6) [redacted]	HNTB
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Kiewit

DESIGN 405 BUILD

Sign-In Sheet

Date: 10/10/2012

Meeting: GSA / MTA / KIEWIT COORDINATION MEETING

(b) (6)

	Name	Signature	Company
1.)	KATHERINE LEE	[redacted]	KIEWIT.
2.)	Tyson Burk	[redacted]	Kiewit
3.)	Alvin Tio Her	[redacted]	MTA
4.)	Terry Martinez	[redacted]	MTA
5.)	Bob Doss	[redacted]	GSA
6.)	Ric Swanton	[redacted]	FBI
7.)	Shawn McCoy	[redacted]	GSA
8.)	Rebecca Martinez	[redacted]	GSA
9.)	Yusin Toma	[redacted]	HNTB
10.)	MUHAMMAD SHAFIQ	[redacted]	KIEWIT
11.)	Andrew Bulmer	[redacted]	HNTB
12.)	Tim Bowe	[redacted]	Mass
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Kiewit
Infrastructure Group

I-405 SEPULVEDA PASS WIDENING PROJECT

DATE: 9/19/2012 TIME: 11:00 AM

MEETING: GSA COORDINATION MEETING

TOPICS:
1. Safety:
2. Quality:
3. Compliance:

LOCATION: SEGMENT 1. FACILITATOR(S): KATHERINE LEE, TYSON BURR

(Briefly describe training topic and attach agenda to attendance sheet.)

(b) (6)

Print Name:

KATHERINE LEE

Timothy Bowe

Bob Doss

CLAUDIO DALLAVALLE

JOHN SCHADLLART

Ric Simpson

Shawn McCoy

Cristina Romero

KASEY SHUDA (MTA)

BRUCE HESSE

Ken Morin (MEC)

[illegible]

[redacted]

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09-19-12

MUHAMMAD SHAFIQ

TYSon Burk

[redacted] (b) (6)

Kiewit
Infrastructure Group

I-405 SEPULVEDA PASS WIDENING PROJECT

DATE: 9/5/2012. TIME: 11:30 AM.

MEETING: GSA COORDINATION MEETING.

TOPICS:
1. Safety:
2. Quality:
3. Compliance:

LOCATION: SEG ONE. FACILITATOR(S): K. LEE.

(Briefly describe training topic and attach agenda to attendance sheet.)

(b) (6)

Print Name:	
REBECCA MARTINEZ	[redacted]
Shawn McCoy	
KATHERINE LEE	
BRUCE HESSE	
Alwin Trotter	
Ric Swanson	
Kenneth MORIN (MEC)	
Tyson Burk	
Perry Martinez	

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I-405 SEPULVEDA PASS WIDENING PROJECT

DATE: 8/29/2012. TIME: 11:00AM.

MEETING: GSA COORDINATION MEETING.

TOPICS:
1. Safety:
2. Quality:
3. Compliance:

LOCATION: FACILITATOR(S): T. BURK
K. LEE.

(Briefly describe training topic and attach agenda to attendance sheet.)

(b) (6)
[redacted]

Print Name:

KATHERINE LEE (KIEWIT
SAM BICE. (KIEWIT)
Tyson Burk Kiewit
Dave Clow - MEC
Daniel Koch - FSI
Hubert Kang
BRUCE HESSE
Rebecca Martinez
Bob Doss
Shawn McCoy
Terry Martinez

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Infrastructure Group

I-405 SEPULVEDA PASS WIDENING PROJECT

DATE: 8/22/2012 TIME: 11:00AM.

MEETING: GSA ~~MEDL~~ COORDINATION MEETING.

TOPICS:
1. Safety:
2. Quality:
3. Compliance:

LOCATION: SEG 1. FACILITATOR(S): KATHERINE LEE.

(Briefly describe training topic and attach agenda to attendance sheet.)

[redacted]

Print Name:

KATHERINE LEE (KIEWIT).

TIM BOWE

Dave Clow

BOB DOSS

SAM BIGS

DAN KOCH

Rebecca Martinez (GSA

STEVEN ZAW

TERRY MARTINEZ

HUBURT KANG

Amir Hassoun

Alvin Trotter, Jr

ROSS FRENCH

"An Equal Employment /Af

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BRUCE HESSE

Shawn McCoy

Kiewit
Infrastructure Group

I-405 SEPULVEDA PASS WIDENING PROJECT

DATE: 8/16/2012 TIME: 9:30AM

MEETING: VERIZON-T, FBI, GSA, KIEWIT FIELD WALK

TOPICS:
1. Safety:
2. Quality:
3. Compliance:

LOCATION: GSA PROPERTY SEPULVEDA BLVD. FACILITATOR(S):

(Briefly describe training topic and attach agenda to attendance sheet.)

(b) (6)

Print Name:

KATHERINE LEE (KPC)
ROSS FRENCH (KPC)
David ARMENTA (VZN-T)
Alan Trotter, T. (MTA)
BOB DOSS (GSA)
Ric Swanson (FBI).
SAM BICE (KPC).

[redacted]

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Infrastructure Group

I-405 SEPULVEDA PASS WIDENING PROJECT

DATE: 7/25/2012 TIME: 11:00AM

MEETING: GSA COORDINATION MEETING

TOPICS:
1. Safety:
2. Quality:
3. Compliance:

LOCATION: SEG 1. FACILITATOR(S):

(Briefly describe training topic and attach agenda to attendance sheet.)

(b) (6)

Print Name: [redacted]

KATHERINE LEE
BRUCE HESSE
HUBURT KANG

BOB DOSS
Ken Morin (MEC)
Tim Bowe
Dave Dow (MEC)
TERRY MARTINEZ
MUHAMMAD SHAFIQ
Tyson Bark

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Infrastructure Group

I-405 SEPULVEDA PASS WIDENING PROJECT

DATE: 6/27/2012 TIME: 11:00AM

MEETING: GSA COORDINATION MEETING

TOPICS:
1. Safety: —
2. Quality: —
3. Compliance: —

LOCATION: SEG 1 CONFERENCE ROOM. FACILITATOR(S): KATHERINE LEE.

(Briefly describe training topic and attach agenda to attendance sheet.)

(b) (6)

Print Name:

KATHERINE LEE
TERRY MARTINEZ
YUJIN TOMA

HUBURY EANG
BOB DOSS
RIC SWANSON

[redacted]

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Kiewit

Sign-In Sheet

DESIGN 405

Date: 2/1/2012

Meeting: GSA / MTA / KIEWIT DESIGN MEETING.

	Name	[redacted]	Company
1.)	Richard Mitchell		HNTB
2.)	KATHERINE LEE		IEWIT.
3.)	Shawn McCoy		SA
4.)	Bob Doss		GSA
5.)	VICTORIA ESPINOZA		KIEWIT
6.)	JARED WEATHERHEAD		MASS ELECTRIC
7.)	BRUCE HERSH		KIEWIT
8.)	Terry Martinez		CT
9.)	Sunil Bagishni		HNTB
10.)	HUBERT KANG		FPL
11.)			
12.)	REBECCA MARTINEZ	VIA PHONE.	
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Kiewit
Infrastructure Group

I-405 SEPULVEDA PASS WIDENING PROJECT

DATE: 03/01/11 TIME: 2:30 PM

MEETING: #GSA DESIGN MEETING #1

TOPICS:
1. Safety:
2. Quality:
3. Compliance:

LOCATION: Wilshire Yard FACILITATOR(S): MTA

(Briefly describe training topic and attach agenda to attendance sheet.)

Print Name:	(b) (6)	AIL ADDRESS:
STEPHEN L. MURRAY	[redacted]	e METRO.NET
Alvin Trotter, Jr.	[redacted]	e metro.net
Kurt Turley	[redacted]	metro.net
M. JAMES MCCOMBS	[redacted]	@metro.net
T. ENGSTROM	[redacted]	@ HNTB.COM
R.C. SWANSON	[redacted]	@ IC.FBI.GOV
ANDREW AMDELOTT	[redacted]	TT@IC.FBI.GOV
Rebecca MARTINEZ	[redacted]	tinez@gsa.gov
BRUCE HESSE	[redacted]	
TIM BOWE	[redacted]	BOWE @ MISSELEC.COM
Mike Potts	[redacted]	
Jason Katz	[redacted]	-

"An Equal Emplo [redacted]

(RETURN COMPLETED FORM TO NORA KENNEDY - ROOM 2.115 OR MAILBOX)

DATE ______________________

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MEETING ______________________

Print Name:

[illegible] Richie Hansel

HUBURT KANG

Terry Martinez

Dana MacFarlane

(b) (5)

[redacted]

"An Equal Employment Opportunity Employer"

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I-405 Sepulveda Pass Improvements Project

Construction Notice

ATTENTION COMMUTERS, RESIDENTS AND BUSINESSES IN THE VICINITY OF THE SAN DIEGO FREEWAY (I-405) AND WILSHIRE BL

The Contractor will begin placing k-rail and installing temporary lighting and signals at Wilshire Bl and Sepulveda Bl on Friday, April 8, 2011 for 12 hours. During this period all traffic signals at the intersection of Wilshire and Sepulveda will be turned off and traffic control officers will be directing traffic. Once complete, Wilshire Bl will be reduced by one center lane in each direction. All turn lanes will remain. This reduced traffic configuration is anticipated to be in place for one year.

What: Installing k-rail and temporary lighting and traffic signals.

When: Closures and work will begin at 10pm on Friday, April 8th and will continue until noon on Saturday, April 9, 2011.

Where: Wilshire Bl at Sepulveda Bl

What to Expect:

- Two lane closure on EB Wilshire from Bonsall to Veteran from 10pm to noon.
- Two lane closure on WB Wilshire from Veteran to Bonsall from 10pm to noon.
- Sepulveda Bl will be reduced to one lane in each direction from Constitution to Ohio.
- Eastbound Wilshire sidewalk will be closed. Pedestrians will be detoured to the westbound Wilshire sidewalk.
- Please share the road with cyclists. "Give Me 3" requires drivers allow three feet when passing bicycles. Be especially cautious in construction zones.
- Emergency vehicle access will be maintained.
- Work is weather permitting and subject to change.
- Visit our website for the latest project updates, www.metro.net/I-405.

To request further information through an assistive listening device, please call 1.800.252.9040.

Please note that construction is a dynamic process and subject to change without notice.

Thank you for your patience and cooperation.

For the latest road closure information, visit *metro.net/405*.

For more information, call the Community Relations Construction Impact Team at 213.922.3665.

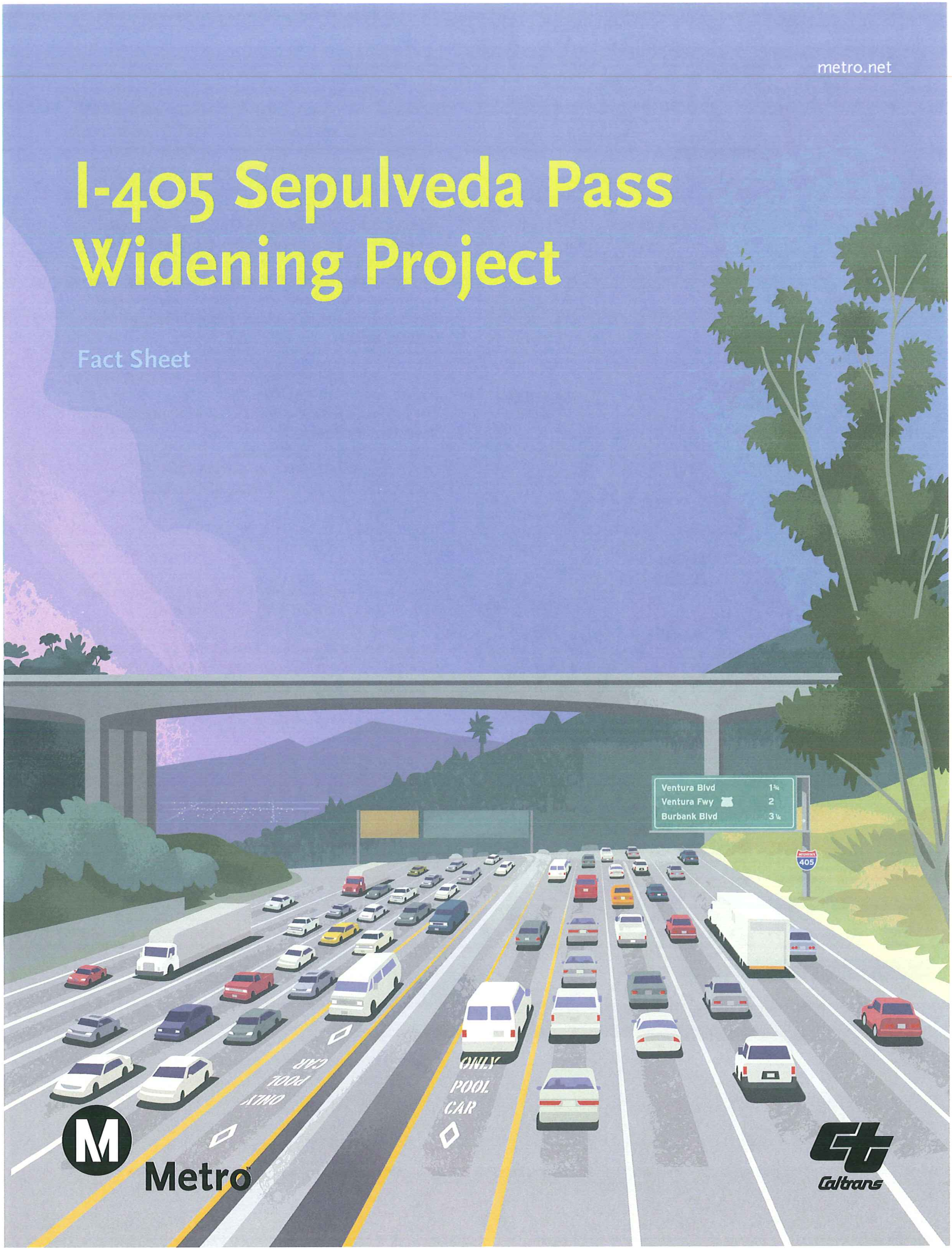
Metro

Caltrans

metro.net

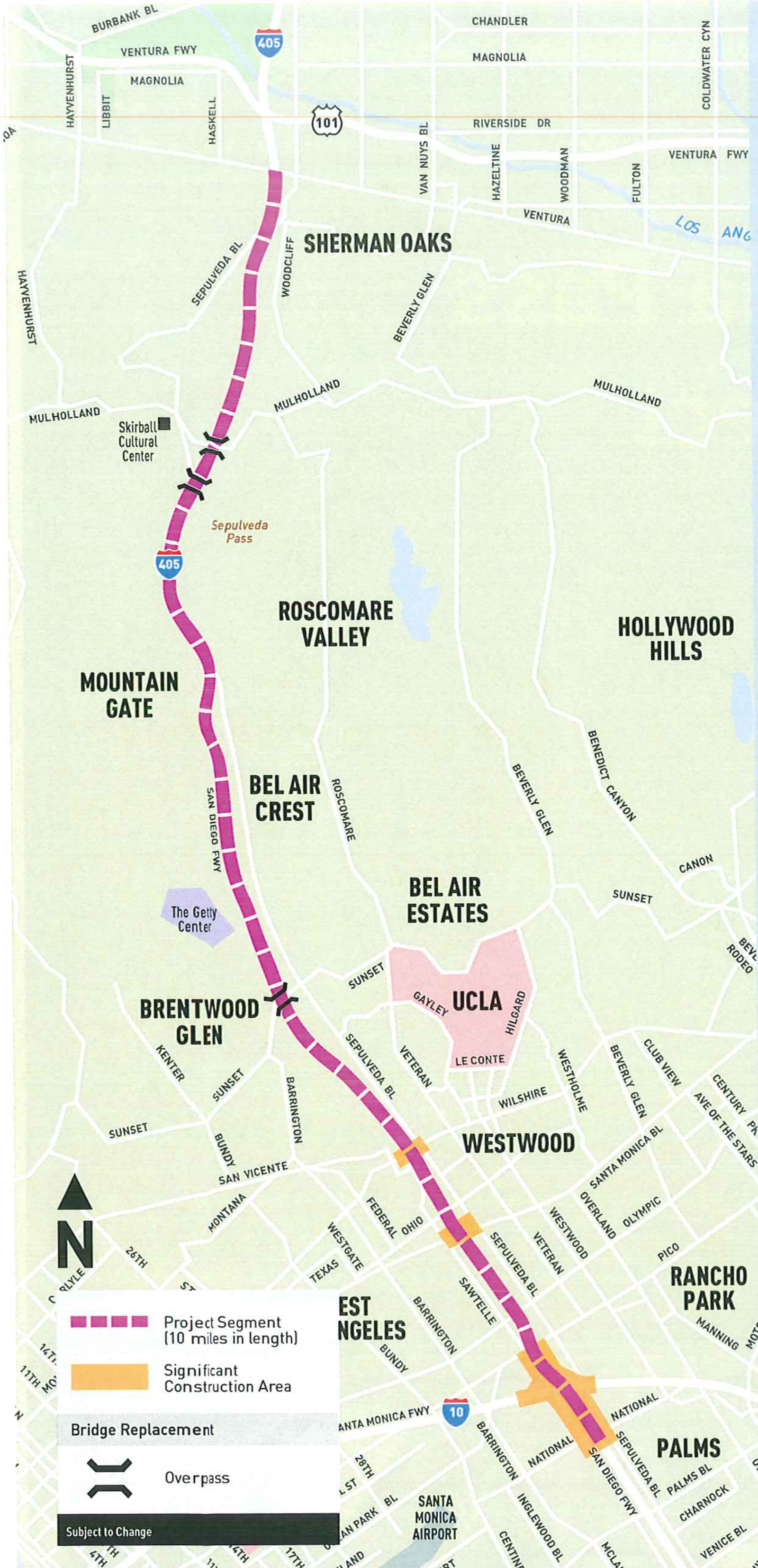
I-405 Sepulveda Pass Widening Project

Fact Sheet



Metro

Caltrans



Overview

The I-405 Sepulveda Pass Widening Project will add a 10-mile HOV lane and improve supporting infrastructure such as ramps, bridges and sound walls on the San Diego Freeway (I-405) and will widen lanes from the Santa Monica Freeway (I-10) to Ventura Freeway (U.S.101). This project will reduce existing and forecasted traffic congestion on the I-405 and enhance traffic operations by adding freeway capacity in an area that experiences heavy congestion. In addition to these modifications, the project will improve both existing and future mobility and enhance safety throughout the corridor. Project benefits include a decrease in commuter time, reduce air pollution, and promote ridesharing. The I-405 Sepulveda Pass Widening Project features include:

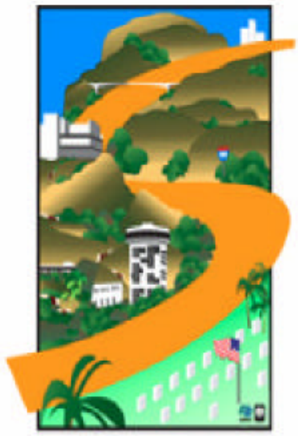
> Add a 10-mile HOV lane on the northbound I-405 between the I-10 and US-101 freeways
> Remove and replace the Skirball Center, Sunset Bl and Mulholland Dr Bridges
> Realign 20 key on and off ramps
> Widen 20 existing overpasses and structures
> Construct approximately 18 miles of retaining wall and sound wall

Partnership

Metro (Los Angeles County Metropolitan Transportation Authority) and Caltrans (California Department of Transportation), in collaboration with the City of Los Angeles, are partners for this project with a shared perspective for success. The combined expertise of these agencies, with Metro as the contracting entity and Caltrans providing technical review, is structured for optimum performance and earliest possible delivery of a completed project.

How to Reach Us

For questions concerning the construction of the I-405 Sepulveda Pass Widening Project, please contact the Community Relations team at 213.922.3665 or visit *metro.net/I-405*.



Sepulveda Pass Project

On The Move

405

Caltrans

Fall 2006

Project Overview and Current Status

The California Department of Transportation (Caltrans) is continuing to work with the community to determine the most efficient ways to improve traffic flow on the San Diego Freeway (I-405) corridor between Santa Monica Freeway (I-10) and the Ventura Freeway (U.S. 101). Some of the segments along the I-405 are nearing construction and will provide long-awaited relief for commuters. Funding commitments for many of the projects are in the process of being identified and obtained. Future funding levels will have a major impact on whether the current project schedule dates (included in this newsletter) are obtainable. This newsletter provides a status for the entire I-405 freeway in West Los Angeles County. On January 13, 2006, Governor Arnold Schwarzenegger signed SB 1026 which authorizes the use of the design-build construction process to more quickly and efficiently widen I-405 by adding a high-occupancy vehicle (HOV) lane in the northbound direction between I-10 and U.S. 101. As part of an overall HOV lane program, Caltrans is currently planning the segment along the northbound I-405 between National Boulevard (south of I-10) and Greenleaf Street (south of U.S. 101). This project, known as the Sepulveda Pass Project, is undergoing an extensive environmental planning process. This process began with scoping meetings in January 2002 and again in October 2005 where alternatives were presented for public review and comment. Based on public input, the initial alternatives have been refined and narrowed to five, which will be analyzed in the Draft Environmental Impact Report/ Draft Environmental Impact Statement (DEIR/DEIS). Caltrans will conduct information and community meetings on the environmental document for the Sepulveda Pass Project early next year and meeting notices will be sent out to all recipients on the community contact database (see page 3 to ensure you receive future updates).

I-405 North at Skirball Center Drive.

Environmental Process Explained

Environmental and engineering refinements for this project continues. Topics of concern voiced during the scoping process will be addressed in the environmental document for the project. The topics raised include: alignment and alternatives, property acquisition, noise mitigation (sound walls), air quality, traffic issues, construction impacts and timeframes. All of these issues will be discussed in future community meetings with potential solutions identified in the DEIR/DEIS.

Project Alternatives

Caltrans and the community will evaluate the following as part of the DEIR/DEIS for the *Sepulveda Pass Project.*

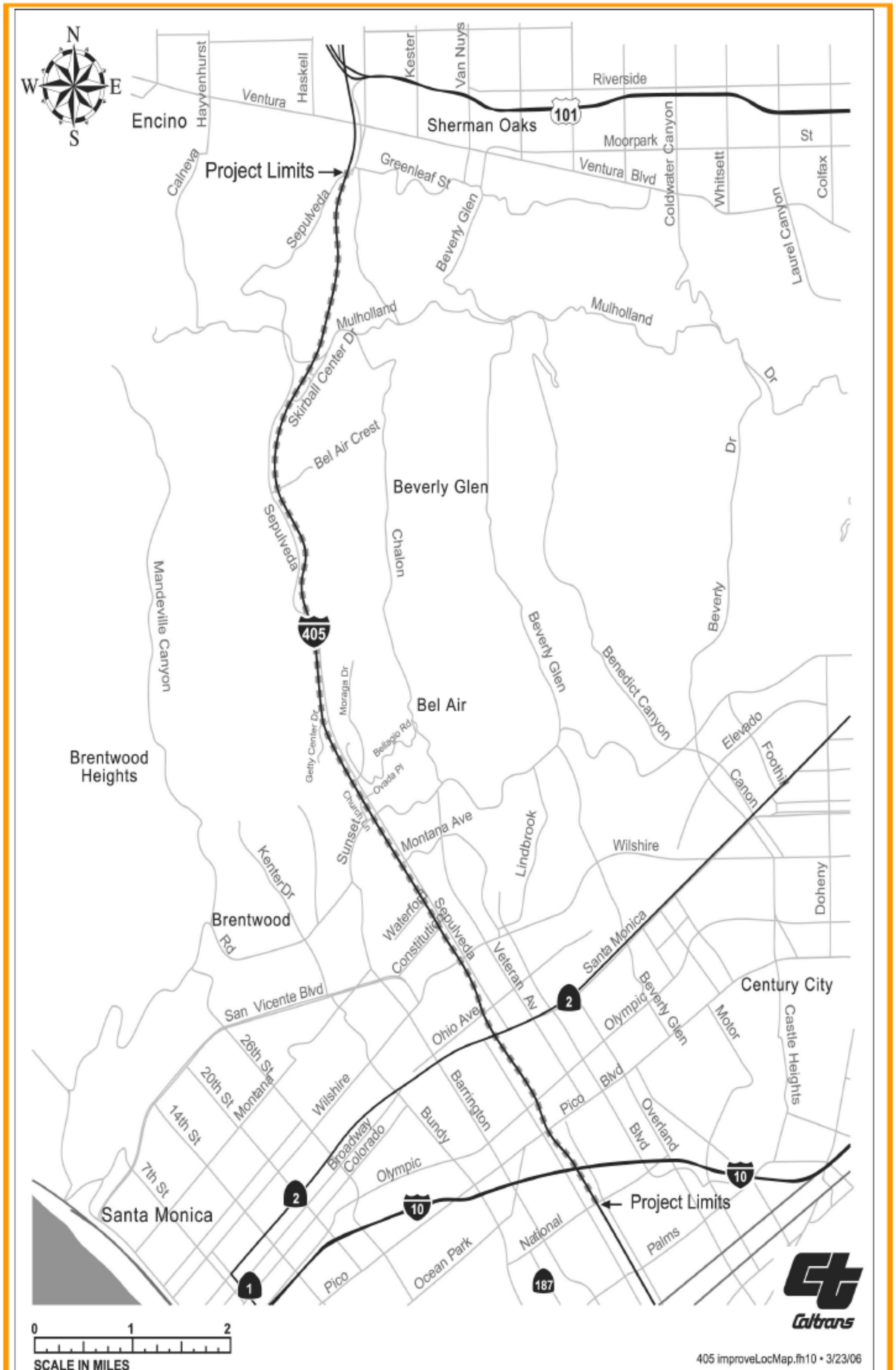
Alternative 1 - No Build Option: No changes would be made to the existing freeway.

Alternative 2A - Add a Standard Northbound HOV Lane: This option will include widening on the eastside of I-405, with some pockets of widening along the westside.

Alternative 2B - Add a Standard Northbound HOV Lane with Transit Enhancements: This option is the same as 2A, except for the addition of a direct off-ramp from the northbound I-405 HOV lane to Santa Monica Boulevard via a tunnel structure that would service the Santa Monica Boulevard Transit Parkway.

Alternative 3A - Add a Standard Northbound HOV Lane and Standardize Southbound Lanes: This option would add a standard HOV lane northbound and standardize the current southbound HOV lane, and close or reconfigure ramps at Sunset Boulevard. Church Lane between Chenault Street and Kiel Street will be realigned to the west to facilitate I-405 widening.

Continued Page 3



Project Alternatives Continued

Alternative 3B - Add a Standard Northbound HOV Lane and Standardize Southbound Lanes with Transit Enhancements: This option is the same as 3A, except for the addition of a direct off-ramp from the northbound I-405 HOV lane to Santa Monica Boulevard via a tunnel structure that would service the Santa Monica Boulevard Transit Parkway.

Alternative 4 - Four Lane HOV Viaduct Structure: This option proposes providing four standard HOV lanes on an elevated viaduct within the freeway median. Preliminary engineering studies indicate that this alternative is not feasible due to adverse social, economic and environmental impacts.

Alternative 5 - Four Lane HOV Viaduct Structure with Transit Enhancement at Santa Monica Boulevard: This option is similar to Alternative 4. Preliminary engineering studies indicate that this alternative is not feasible due to adverse social, economic and environmental impacts.

Stay in Touch with the Sepulveda Pass Project

The *Sepulveda Pass Project* database has over 11,000 project contacts collected over the years. Initial research indicates that many of these contacts may be old or outdated. In an effort to reduce waste and reach only those individuals who want project information, we are updating our project database. **If you wish to remain part of the project database, or know someone who wishes to be added, please complete and return this detachable card by November 17th.** ***Only those individuals who return this card will be included on the project database for future mailings.***

Complete and Return by November 17th

Name ______________________

Organization & Title ______________________

Address ______________________

____

Telephone ______________________

Email Address ______________________

Please Send Email Notice Only YES ☐ NO ☐

PLEASE PRINT LEGIBLY SO YOUR CONTACT INFORMATION IS ENTERED ACCURATELY. THANK YOU.

SEPULVEDA PASS PROJECT

On The Move 405

Caltrans

Project Facts and Figures

The *Sepulveda Pass Project* schedule includes the following dates:

EIR/EIS Completion Date: Summer 2007

Construction Begins and Ends: Subject to the availability of funding

Estimated Project Cost (depending on alternative selected): $500-$800 million

Project Contacts:

Project Manager - Edward Andraos
Edward_andraos@dot.ca.gov

Senior Environmental Planner - Carlos J. Montez *Carlos_montez@dot.ca.gov*

I-405 HOV Project Website

http://www.dot.ca.gov/dist07/move405/

Visit this website for the latest information on this and other I-405 projects.

Status of Nearby Caltrans Projects

The following are status updates regarding local Caltrans projects of interest to the community:

U.S. 101/I-405 Connector Project *Environmental scoping for this project was recently completed. Draft environmental documents will be available for review in early 2007.*

I-405 HOV Lane Southbound from Waterford Street to I-10 *Estimated completion is 2007.*

I-405 HOV Lanes from SR-90 to I-10 *Estimated completion is early 2008.*

I-405 HOV Lane Northbound from Ventura Boulevard to Burbank Boulevard *Estimated completion is mid 2007.*

Postage Paid

Business Reply Permit Number

Sepulveda Pass Project
Project Database Update
c/o Arellano Associates
4091 Riverside Drive, Suite 117
Chino, CA 91710

District 7
Los Angeles and Ventura Counties

SEPULVEDA
PASS
PROJECT

FACT SHEET

Frequently Asked Questions

What is the Sepulveda Pass Project?

The Sepulveda Pass Project will extend the HOV (High Occupancy Vehicle, or carpool) lane on the northbound San Diego Freeway (I-405) from the Santa Monica Freeway (I-10) to the Ventura Freeway (U.S. 101). The southbound HOV lanes are currently under construction and will be completed in early 2009. The Sepulveda Pass Project will complete the missing northbound I-405 HOV lanes.

Why is the project needed?

The improvements will ease congestion. HOV lanes improve mobility by moving twice as many people as a regular use lane, decreasing commute times for all drivers, enhancing safety, reducing air pollution and promoting ridesharing. This highly-congested portion of the I-405 serves more than 300,000 motorists traveling daily between the San Fernando Valley, West Los Angeles and Los Angeles International Airport (LAX). Additionally, this project will close the HOV lane gap.

What project alternatives are being considered?

The alternatives remaining are:

- The "no project" alternative
- Alternative 2A - widen northbound I-405 to add a HOV lane between National Boulevard and Ventura Boulevard meeting current design standards
- Alternative 2B - includes all the improvements in Alternative 2A plus an off ramp from the northbound I-405 HOV lane to Santa Monica Boulevard
- Alternative 3A - includes all improvements in Alternative 2A and will standardize the southbound lanes, medians and shoulders
- Alternative 3B - includes all the improvements in Alternative 3A plus an off ramp from the northbound I-405 HOV lane to Santa Monica Boulevard

What is the current status of the project and when will an alternative be selected?

The project is in the environmental phase; the environmental document is expected to be approved for public review in April and a formal public hearing is tentatively scheduled for May 29th. No decisions will be made on a recommended alternative until after the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) circulation and public hearing. The recommended plan will be identified in the Final EIR/EIS which will be completed in summer 2007.

When can we expect to see some relief on the I-405?

An innovative Design/Build project delivery approach (authorized under SB 1026) will accelerate project completion by more than two years by performing project final design, right-of-way acquisition, and construction concurrently. Preliminary engineering work by Caltrans, prior to contract award will allow the contractor to begin construction soon after the contract is awarded. Construction is expected to begin by spring 2009. Construction will take about four years to complete.

How do I find out if my property will be impacted?

Some private property may need to be acquired for this project, but acquisition will be minimized as much as possible. There will also be temporary easements required for construction. The potentially affected properties are shown on the maps available at these community meetings. Similar maps will also be available in the Draft EIR/EIS. Please see the right-of-way maps for specific detail (look for the signs denoting your neighborhood area).

SEPULVEDA PASS PROJECT

FACT SHEET

How can I comment on this project?

You are encouraged to complete a comment card and leave it with Caltrans staff today or mail it to us by March 31st. Comment cards may be mailed to California Department of Transportation - Ron Kosinski, Deputy District Division Director - Division of Environmental Planning (405 HOV) - 100 South Main Street, MS-16A, Los Angeles, CA 90012. Additionally there will be an opportunity to provide more formal comments during the 60-day public review of the Draft EIR/EIS. Also both verbal and written comments will be solicited at the public hearing **tentatively** scheduled for the evening of May 29th at the Skirball Cultural Center.

I see a lot of construction activity in the I-405 area and have heard about other projects in the planning stages. What is the status of these projects?

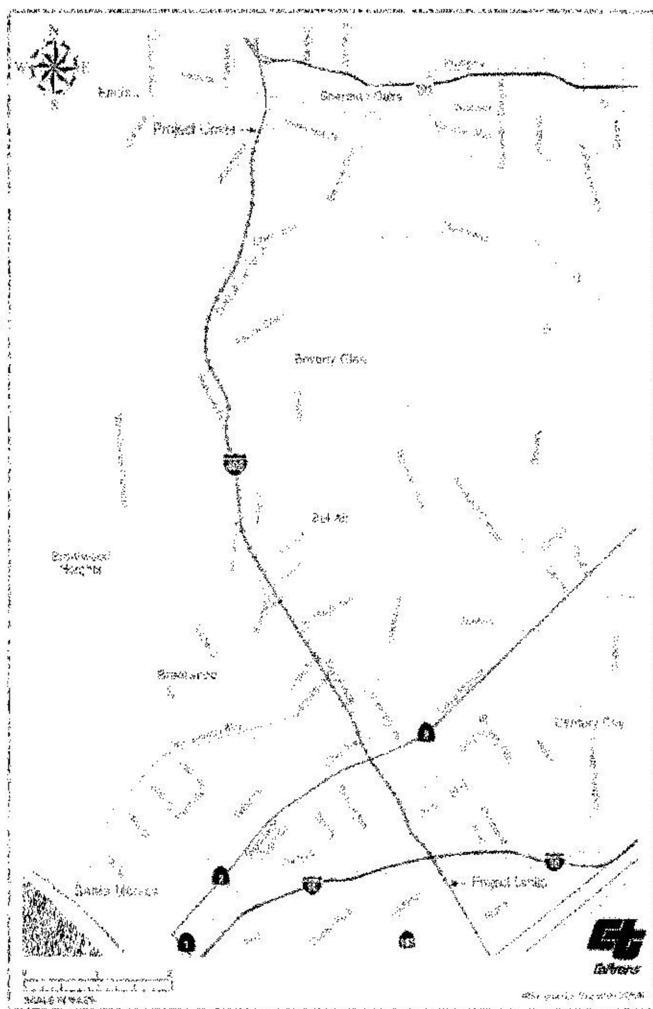
- U.S. 101/I-405 Connector Project - environmental scoping for this project was recently completed and draft environmental documents will be available for review in fall 2007.
- Southbound I-405 HOV Lane from Waterford Street to I-10 - estimated completion is September 2007.
- Northbound I-405 HOV Lane from Ventura Boulevard to Burbank Boulevard - lane now open; completion of landscaping is expected by August 2007.
- I-405 HOV Lanes from SR-90 to I-10 - estimated completion is early 2009.
- Northbound I-405 Gap Closure Project from Sepulveda Boulevard undercrossing to the U.S. 101/I-405 interchange - construction is estimated to be completed in October 2007.
- The City of Los Angeles Sepulveda Boulevard Reversible Lane Project - the City is finalizing its environmental documents and construction is anticipated to begin this summer.

There is already a great deal of traffic on the I-405. What will Caltrans do to minimize delays during construction?

A Traffic Management Plan (TMP) will be developed to minimize delays and inconvenience to the public during the construction period. The TMP will include a public awareness program to inform the public of project progress and upcoming closures and detours. Additionally, the contractor will be advised to conduct major construction activity during off-peak travel times.

Where is the funding coming from for this project?

Total available funds for the project are $950 million - divided as follows: $730 million in bond funds, $130 million in SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act - a Legacy for Users) Federal funds and $90 million in TCRP (Traffic Congestion Relief Program) State funds.



Sepulveda Pass Project Area


WILSHIRE